The Mining Journal
AND COMMERCIAL GAZETTE.

No. 71.—Vol. III.] LONDON: SATURDAY, DECEMBER 31, 1836. [Price 6d.

SHARES IN THE SOUTH POLGOOTH TIN AND COPPER MINE.

Messrs. E. FOSTER and SON will, by order of the Directors, SELL by AUCTION, at the Mart, on Thursday, 12th January, at Twelve for One o'clock, in lots, some FORFEITED SHARES in the above promising concern, which is situated adjoining to one of the most flourishing Mines in Cornwall, and offering prospects of great encouragement to the Shareholders. For particulars apply at the office, 20, Basinghall-street, at the Mart, and of Messrs. Foster, 14, Greek-street, and 54, Pall-mall.

PATENT SAFETY FUZE.—This article affords the safest, cheapest, and most expeditious means of BLASTING ROCKS in Mines, Quarries, and Submarine Operations.

Manufactured and sold by the Patentees, Bickford, Smith, and Davey, Camborne, Cornwall.

ST. HILARY COPPER MINING COMPANY.—The Shareholders who have paid the last Instalment of Five Shillings per Share, due 8th of August, are requested to bring their Scrip Certificates and Banker's Receipts to the Company's office to be notified, in order that the numbers of those shares on which the Call has not been paid, may be ascertained.

15, Great S. Helens, Dec. 27.

CORNWALL GREAT UNITED MINES.—Notice is hereby given to the Shareholders in this Company, that any shares upon which the Call of Two Pounds per Share, due on the 21st inst., be not paid within Thirty days from that date, will be liable to FORFEITURE.

By order of the Board,

37, Old Broad-street, Dec. 23. T. V. WILLIAMS, Secretary.

Messrs. Masterman and Co., Bankers to the Company, will receive the above-mentioned Call.

NEW SOUTH HOOE MINING COMPANY.—The General HALF-YEARLY MEETING of the Shareholders will be held at the Offices of the Company, on Saturday, Jan. 14, 1837, at Twelve for One o'clock precisely.

By order of the Committee,

1, Freeman's-court, Cornhill, Dec. 12. M. BAYLIS, Clerk.

MINAS GERAES MINING COMPANY.—The holders of shares in this Company are reminded that unless the Third Instalment of Two Pounds per share, which became due on the 18th inst., be paid to Messrs. Barclay, Bevan, Tritton, and Co., on or before the 2d day of January, 1837, the shares so in default will be sold.

Minas Geraes Office, JOHN LUCKOMBE, Secretary.

8, Tokenhouse-yard, Dec. 23.

OLD MOOR TIN MINING COMPANY.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the Shareholders will be held at the office of the Company, 46, Lime-street, on Saturday, the 21st day of January next, for the purpose of confirming or rescinding the Resolution passed at the Special General Meeting held the 23d inst. for dissolving the Company. JOHN W. F. DALTON.

46, Lime-street, Dec. 28.

ENGLISH MINING ASSOCIATION. — Notice is hereby given, that a SPECIAL GENERAL MEETING of the Shareholders will be held, in conformity with the Deed of Settlement, at the office of the Company, on Thursday, the 26th day of January next, for the purpose of electing a Director, to fill the vacancy occasioned by the death of James Alexander de Riemer, Esq. A list of the members of the Association is prepared at the office and open to the inspection of the candidates. The chair will be taken at One o'clock.

By order of the Board,

Austin-friars, Dec. 29. J. BOURDILLON, Sec.

BRITISH TIN MINING COMPANY.—The Shareholders are hereby reminded, that the time for the payment of the CALL of FIVE SHILLINGS per share at the Company's Bankers, Messrs. Stone, Martins, and Stones, having expired on the 27th inst., such shares on which the said Call shall remain unpaid fourteen days after that date, viz. the 10th of January, 1837, will be subject to FORFEITURE, according to the Conditions endorsed on the Scrip Shares.

On producing the Bankers Receipt, together with the Scrip Shares, at the office of the Company, 5, Adam's-court, Broad-street, the Instalment will be endorsed.

By order of the Directors,

5, Adam's-court, Broad-street, JOHN SANDERS, Secretary.

Dec. 28.

WEST CORNWALL MINES INVESTMENT COMPANY.—The Directors hereby give Notice, that the FIRST HALF YEARLY DIVIDEND of FIVE PER CENT. on the Capital Stock of this Company, has been this day declared PAYABLE, at the Company's Offices, on Wednesday next, the 4th January, 1837, and the following Wednesdays, between the hours of Twelve and Three. GEO. D. KEOGH, Secretary.

12, George-yard, Lombard-street, Dec. 28.

WHEAL SISTERS MINING COMPANY.—The Directors of this Company hereby give notice, that a CALL of TEN SHILLINGS per share has been made, payable at the banking-house of Messrs. Vere, Sapte, Banbury, Muspratt, and Co., No. 77, Lombard-street, on or before the 7th of January next. The Bankers' receipt, together with the scrip certificates, to be brought to the office of the Company, that the payments may be duly certified.

26, New Broad-street, Dec. 6.

EUROPEAN GAS COMPANY.—Notice to Proprietors.—At a Meeting of the Directors, on the 6th December instant, it was resolved, That all the shares on which the several calls in arrear shall not be paid on or before the 12th of January next, shall, without further delay, be declared FORFEITED.

39, Finsbury-circus, Dec. 7.

BRITISH COPPER MINING COMPANY.—The Shareholders are requested to take Notice, that the period allowed for the payment of the Sixth Instalment of Five Shillings per share, expired on the 1st of December, and that the Directors will be under the necessity of declaring FORFEITURE of all shares on which the said Call shall not be paid, at the office of the Company, on or before the 10th January, 1837, in virtue of the following clause, endorsed on the back of the scrip shares:—

"In the event of the non-payment of any one of the instalments, within thirty days after the expiration of the period fixed by public advertisement, the bearer hereof voluntarily forfeits and relinquishes to, and for the benefit of, the remaining Shareholders, all and every advantage derivable, or hereafter to be derived, from these shares. The shares so forfeited to be either re-issued or cancelled, at the discretion of the Directors.

By order of the Board,

31, Lombard-street Chambers, NATH. MIDWINTER, Secretary.

Dec. 23.

PENOLES GOLD MINING ASSOCIATION.—The Directors of this Company in pursuance of the powers vested in them by the deed of settlement, hereby give Notice, that, a requisition having been delivered at this Office, signed by ten or more Shareholders, holding in their own right 400 Shares and upwards, requiring that a PUBLIC MEETING should be held for the purpose of declaring forfeited all Shares on which any Call or Calls may remain unpaid, as also to fill up such vacancies as may have arisen in the direction, a SPECIAL GENERAL MEETING of the Shareholders of, and in this Company, will be held on the 23d of January, 1837, at the North and South American Coffee House, Threadneedle Street, in the City of London, for the purposes referred to in the said requisition, at the hour of two o'clock precisely; then to consider and determine on the absolute forfeiture of such Shares on which any Call, or Calls, may remain unpaid; and also to fill up the vacancies in the direction, as therein mentioned.

Office, 37, New Broad Street, Dec. 30, 1836. GEORGE MORGAN, Sec.

NEW MARINE STEAM-BOILERS.—AT COLLIER'S Improved Patent Steam-Boiler Manufactory, Globe-stairs Docks, Rotherhithe.—The public are respectfully invited to VIEW a PAIR of BOILERS, of 120-horse power, and also a Boiler of 30-horse power, which can be seen generating steam daily, so that the scientific world and all persons interested in steam agency may witness the superior properties of these boilers, a few only of which are here enumerated:—

1. Boilers of 100-horse power will be only ten feet long instead of about twenty-four feet, and will thereby save fourteen feet in length, an entire section of the most valuable part of a vessel, and likewise, from the diminished quantity of iron and water required, above fifteen tons in weight.
2. A ship will be kept perfectly cool, by the boilers being surrounded by a jacket, or iron casing, containing a slow conductor of heat, and comfort be given to the passengers and crew, and safety to the vessel, as well as security to the provisions and other merchandise, live stock, &c.
3. A saving will be effected of nearly one half the fuel.
4. A safety or breathing pipe, which renders these boilers perfectly secure from explosion by expansion or collapse.
5. No incrustation from salt or sediment can take place.

There are also other important improvements in these boilers; but the foregoing will, it is presumed, show the very great advantages which will be gained by their introduction. The boilers, prior to the great improvements made in them by the inventor, were most successfully employed by the Admiralty, and their superiority certified by the engineer and stokers of the Government vessel. Engineers and boiler-makers are particularly invited to view these boilers, to whom licenses will be granted on liberal terms.

Prospectuses and drawings may be had at the manufactory, and also of Mr. John Stevens, Paul's Wharf, 24, Upper Thames-street, together with such further explanation as may be required.

N.B.—The manufactory is upon a large spot of ground, commanding 290 feet of water frontage, with a slip and a double dry dock, affording every facility and convenience to vessels of any magnitude.

THE MINING REVIEW,

AND

JOURNAL of GEOLOGY, MINERALOGY, and METALLURGY.

No. IX.

(Forming the first number of a new series),

Will be published on the 1st of February, 1837, price 3s. 6d.

The publication of the Mining Journal has, from the nature of the papers which are inserted, and the success attending it, in some degree anticipated the Mining Review, with reference to Mining Companies, as it furnishes weekly the Correspondence from Mines, and the Reports of Public Meetings, while the numerous original articles on Geology and Mineralogy which it contains, have rendered it perfectly original and unique. From this circumstance, it will be apparent that the Mining Review should undergo some change, among which, one that presents itself is that of Price, which will in future be reduced from 5s. to 3s. 6d., while the matter will be more select; a large portion of it comprehending, as hereto fore, original papers, and the residue, extracts from the Mining Journal, and from Foreign works, with tabular matter, &c. The numbers will be accompanied by plates, illustrating the subjects treated on, and although the price be reduced, the articles will be of equal value with those in the preceding numbers.

The Contents of No. VIII. are the following:—

Original Communications: 1. On Metalliferous and Mineral Deposits—2. Analysis of the Mexican Process of Amalgamation—3. The Mineral Topography of Great Britain—4. Geological Survey of the Carn Menelis District, Cornwall—5. On Civil and Mining Engineering—6. Schauffelen's Hot-Air Furnace Feeder—7. On the Occurrence of the Precious Metals in Great Britain—8. Proposed Plan of a Geological Survey—9. On Pumps used in Mines—10. Visit to the Quicksilver Mines of Idria—11. On the Auriferous Rocks of Virginia—12. On the Ventilation of Mines.

Miscellanea: Geology—Preservation of Cast-Iron Pipes—Mechanical Power of Steam—Iron—Malachite—Pary's Mountain—Effect of Heat on Mineral Substances—Exports of Metals—Application of the Hot-Blast—Steam-Engines—Tin—Gradual Rising of Land—Surprising Escape of a Miner—Density of the Earth—Antediluvian—Silver Mines—Fossil Equiseta—Gradual Elevation of parts of Sweden—Blasting Rocks—Palladium—Masses of Meteoric Iron in Mexico—Gold Mines in North Carolina—Artesian Well—Mineral Produce—Artificial Felspar—Petroleum—On the Occurrence of Metals in Rocks—Tin Bounds—Analysis of a Fossil Tree—Diamond Matrix—Importation of Coal—On the Cementation of Iron—Unproductive Labour in Mines—Occurrence of Bones in a Coal Mine—Platina and Gold of the Uralian Mountains—Triphyline, a new Mineral—Diamonds in North America—Hydroboracite, a new Mineral—Coinage of Mexico, Peru, and Chili—Coins and Medals—Idocrase in the Isle of Syke—On Assaying the Ores of Manganese—Allanite of Greenland—Antimonial Nickel—Chiastolite—On the Proofs of a Gradual Rising of the Land—Needle Ore—Diamonds at Algiers.

Scientific Bodies: Society of Arts—Geological Society of London—Geological Society of France—Report of the Geological Reconnoissance of the State of Virginia.

Notices of Recent Publications: Memoirs of the Life of Sir H. Davy—Report of the Royal Cornwall Polytechnic Society—Geological Map of England and Wales—Silliman's American Journal of Science and Arts.

Appendix: Abstract of Tin coined in Cornwall and Devon; and particulars of Copper Ores purchased by the Companies in Cornwall and Swansea—Weekly Sales of Copper Ore at Ticketings in Cornwall—Produce of each Copper Mine in Cornwall, with a Summary—Workings of the various Mines in Cornwall, &c.

London: Published by Simpkin and Marshall; and may be had of every bookseller in the United Kingdom.

THE MINING JOURNAL AND COMMERCIAL GAZETTE.

The only Newspaper exclusively devoted to Geology, Mineralogy, and Metallurgy; combining therewith Reports of the Proceedings of Public Companies, Correspondence from the Mining Districts, Sales of Ores, Prices of Shares, Mines, Railways, Canals, &c., with Parliamentary Summary, London Gazette, and much original and interesting Scientific Intelligence, &c., is published every Saturday, price Sixpence, and may be had of all newsvenders in town and country.

Office, 12, Gough-square, Fleet-street London.

RAILWAY MAGAZINE, No. XI.—NEW SERIES.—Among several valuable papers are—an Account of all the Railways for which Notices have been given—Utility of Aerostation, &c. The Third Edition of No. I. and the Second Edition of Nos. II. and X. are reprinting, and will shortly enable the great demand for volume I. to be supplied.

James Wyld, Charing-cross east, and sold by Pelham Richardson, Cornhill.

TO CIVIL ENGINEERS, &c. &c.

NOW READY,

Second edition, complete in two vols. quarto, with seventy-two plates, price 5l 5s.,

REPORTS, ESTIMATES, and TREATISES, on CANALS, RIVERS, HARBOURS, PIERS, BRIDGES, DRAINING, EMBANKING, LIGHTHOUSES, MACHINERY, FIRE-ENGINES, MILLS, &c., with OTHER PAPERS, drawn up in the course of his Employment,

By J. SMEATON, Civil Engineer.

The Committee of the Society of Civil Engineers, under whose superintendence these Papers were published, "thought that they would be of the greatest use to the profession, to teach actual and practical knowledge, as well to conceive advice and opinions given, as to convey them, with perspicuity and energy, to others."

Second edition, just published, illustrated by Seven Plates; in 8vo., price 12s. bds.,

TRACTS ON HYDRAULICS,

Edited by T. TREDGOLD, C.E.;

Comprising Smeaton's Experimental Papers on the Powers of Water and Wind to turn Mills, &c.; Venturi's Experiments on the Motion of Fluids; Dr. Young's Summary of Practical Hydraulics; with Notes by the Editor.

"If it were only as examples of the method of reasoning from Experiments and Facts, the Papers of Smeaton, in their complete state, are truly valuable; but it also fortunately happens that they are on subjects which form part of the business of the Engineer and Millwright, and which ought to be well understood by the Civil Engineer."—Tredgold.

Published by M. Taylor, 7, Wellington-street, Strand (Nephew and Successor to the late J. Taylor), removed from Holborn.

THE ATHENÆUM.—Persons intending to become Subscribers with the New Year are requested to give their orders at once to their respective Booksellers, as the Proprietors have been obliged, within the last three years, at great cost, to reprint NOT LESS THAN TWENTY NUMBERS.

☞ The Athenæum, London Journal of Literature, Science, and Art, is published every Saturday, price Fourpence (the stamped edition to go free by post Fivepence), and is also issued every Month, stitched in a wrapper.

LONDON AND GREENWICH RAILWAY.—The Company's CARRIAGES LEAVE their respective STATIONS every QUARTER of an HOUR, from Eight o'clock in the morning until Half-past Eight at night. GEORGE WALTER, Managing Director.

N.B. Stabling is provided at the Deptford station for the convenience of travellers from the interior of the country, or from the neighbouring towns, who may wish to avail themselves of the Railway, and thereby save their horses eight or ten miles of road.

LONDON AND GREENWICH RAILWAY FARES:—

1st class carriages	1s. 0d.
2d class ditto	0 9
3d class ditto	0 6

Free Tickets (not transferable) may be had at the Company's offices, 26, Cornhill:—

1st class carriages	6 per quarter.
2d class ditto	4 "
3d class ditto	3 "

Entrances—Duke-street, London-bridge, and High-street, Deptford.

J. F. AKERMAN, Secretary.

SOUTH-EASTERN RAILWAY COMPANY

NOTICE OF CALL.

The Directors having this day resolved to make a CALL of FIVE POUNDS per share on each of the shares in this undertaking, the Proprietors are hereby required to pay the same, on or before Wednesday, the 15th day of January, 1837, to either of the under-mentioned bankers:—

Sir James Esdaile, Bart., and Co., London.
Messrs. Moss and Co., Liverpool.
The Manchester and Liverpool District Bank, Manchester.
Messrs. Beeching and Son, Tunbridge, and Tunbridge Wells.
Messrs. Wilmshurst and Co., Cranbrook.
Messrs. Jemmett and Co., Ashford.
Messrs. Fector and Co., and Messrs. Latham and Co., Dover.

The Directors, in making their First Call on the Proprietors, feel it incumbent on them to state, that the course they propose to adopt is so to arrange the prosecution of the works as to ensure the earliest possible income to the proprietors, and such will, not only in the present, but on all future occasions, be the principle on which their proceedings will be founded. They cannot forbear to observe, that independent of the main line to Dover, the necessary steps have been taken for applications to Parliament, in the ensuing Session, for lines of railway in connexion with the South-Eastern, to Brighton, Lewes, and Newhaven, to Maidstone, to Canterbury, Sandwich, and Ramsgate; and a further extension is contemplated to Rye and Hastings.

By order of the Directors,

South-Eastern Railway Office, J. S. YEATS, Secretary.

10, Coleman-street, Dec. 6.

THE AMERICAN LIFE INSURANCE and TRUST COMPANY—Capital, Two Millions of Dollars—

RECEIVE MONEYS in DEPOSIT for a term of years, paying INTEREST half-yearly in the City of London, at the rate of FIVE PER CENT. per annum.

Receive Deposits payable at short sight in the United States at the current rate of exchange, and Three per Cent. interest.

Agents—Messrs. George Wildes and Co., 19, Coleman-street, London.

References—Messrs. Smith, Payne, and Smiths; Grote, Prescott, and Grote; and F. de Lizardi and Co.

SEVEN PER CENT. ANNUITIES.

THE AMERICAN LIFE INSURANCE and TRUST COMPANY grant SEVEN PER CENT. ANNUITIES for the term of Twenty-five years, payable half-yearly in the City of London.

Agency-office, 19, Coleman-street, London.

GREAT NORTH OF ENGLAND RAILWAY.

TO CONTRACTORS.

Time fixed for receiving Tenders.

The Directors of the above Railway hereby give Notice, that Tuesday, the 24th day of January, 1837, is the last day on which Contractors can inspect the Plans, Specifications, and Conditions (now lying at this office) for the formation and completion of about NINE MILES OF WAY, near the city of Durham, and which comprise some of the principal works on the line.

Sealed Tenders for the execution thereof, endorsed "Tender for Works," must be sent in, addressed to the Secretary, on or before that day.

Great North of England Railway Office, JOSEPH MILLER, Sec.

Darlington, Dec. 17, 1836.

RUSSIAN RAILWAY FROM ST. PETERSBURGH TO ZARSKOE-SELO AND PAWLOWSK.

Established by Imperial Decree of 21st March, 1836.

Capital—3,000,000 Bank-Note Rubles, in 15,000 Shares of 200 Rubles (£9 sterling) each, with the right of issuing 2500 more Shares, if required.

DIRECTORS OF THE COMPANY.

His Excellency the Count Alexis Bobrinsky, Chamberlain to his Majesty the Emperor.

J. C. Plitt, Esq., merchant, Consul to the Free Town of Frankfort on Main.

Benedict Cramer, Esq., Merchant, and Councillor of Commerce.

The Chevalier Franz Anton Von Gerstner, who is also Directing Engineer.

Agent in London—Mr. Christopher Kroeft.

Bankers.—Sir James Esdaile and Co.

The established utility and importance of railroads, as the means of facilitating internal communication, and extending the operations of commerce, have induced the Imperial Government of Russia to turn its attention and afford its especial protection to this class of enterprise.

During the six months of the year in which the ports of the Baltic are open to navigation, it is obvious that for railroads from the interior to those ports there would be found ample employment in the conveyance of tallow, hemp, flax, potashes, linen, copper, and the other articles of Russian export; but experience has shown that, in the neighbourhood of large towns especially, the transport of passengers has proved even more lucrative than that of merchandise: his Majesty, the Emperor, therefore, acting upon this knowledge, has granted to the Chevalier Von Gerstner the exclusive privilege of forming a Company of Shareholders for the construction of two several lines of railroads; the first of which, from St. Petersburgh to the towns of Zarskoe-Selo and Pawlowsk, is the immediate subject of the present Prospectus.

To promote the greater convenience of the public, the road begins at one of the points of the Pontanka Canal, nearly in the centre of the capital, and after a gentle curve of a mile through the city, is continued in a straight line of seventeen English miles, till it terminates in the middle of the park of Pawlowsk, where the Company has erected a large building for the reception and entertainment of passengers. A similar building is in progress of erection at Zarskoe-Selo. By the special concession of the Emperor, the line of road has been permitted to pass through the Imperial Artillery Ground, and over the site of the manufactory for Congreve rockets, the removal of both these establishments having been ordered, to facilitate so important an accommodation: the removal, of course, to be effected at the expense of the Company.

During the remainder of its course, the Emperor has directed the cession of all crown lands that may be required for the purposes of the railroad, and the property of private individuals is to be acquired under judicial valuation. To prevent the obstruction of the works, however, pending the progress of valuation, the Company is to be at liberty, by depositing the necessary amount with the Government, to proceed at once with its operations.

The Company has been further permitted to import, duty free, all the rails and chairs, if, as has proved to be the case, no Russian iron-founders should undertake the supply, even at an advance of 15 per cent. upon the prices of the foreign articles.

The locomotive engines, carriages, waggons, and other machinery, are in like manner allowed to be imported from foreign countries free of duty.

For a term of ten years this Railroad Company is exempted from the payment of rates or taxes of every kind; and the possession of their entire property in the undertaking is guaranteed in perpetuity to the Shareholders.

Even in those streets of St. Petersburgh, through which the line may pass, the Company's locomotive engines are permitted to run, on the sole condition, that some instrument of sound shall be used as a signal to the inhabitants that the trains are approaching.

The Directors have full power to fix the fares for the conveyance of passengers and rates for the carriage of goods. All holders of shares, whether in Russia or other countries, are to enjoy a perfect equality of rights, and no Shareholder can be made responsible for more than the nominal value of his shares.

PRESENT CONDITION OF THE WORKS.

The construction of the railroad began in April last along the whole line; the embankment, according to contract, was to be finished last month. The building of the bridges will be accomplished in October, when the opening of the road will take place. Thus will the construction of a line, eighteen English miles in length, have been effected in seven months: a result only practicable in a country like Russia, where the ordinary difficulties of such an undertaking disappear before the powerful patronage of the Sovereign.

Immediately on the formation of the Company in March this year, the Chevalier Von Gerstner repaired to England, and there contracted for the whole of the rails, carriages, &c. required for the line. The rails have a parallel form, and weigh 45 lbs. per yard, and have been delivered from the Butterley Company's and Bedlington Iron-Works, and by Messrs. Guest, Lewis, and Co. The pedestals, weighing 22 lbs. each, from Butterley. The locomotives have been contracted for respectively, with Messrs. Robert Stephenson, of Newcastle-on-Tyne; Timothy Hackworth, of New Shildon; Charles Taylour, of the Vulcan Foundry, near Warrington, and John Cockerill, in Belgium. Three of these have already been shipped for St. Petersburgh, and have upon previous trial at the works proved powerful and efficient beyond precedent. Each locomotive is supplied with an apparatus, by means of which the frozen sleet, should such be found upon the rails, will be broken up, and, together with the snow, be cleared away.

The carriages for passengers, and the waggons for goods, have been received partly from Manchester, partly from Dublin, and the remainder from Belgium, in the course of this month. A sufficient number of carriages has been ordered for the conveyance of 1400 passengers at a time.

The weighing machines are manufactured by Mr. Richard Kuchen, at Warrington: a crane by Messrs. Sharpe, Roberts, and Co., of Manchester: clocks, with illuminated dials for the various stations, by Mr. T. P. Paine, in London: trumpet machines for the carriages, in their progress through the streets of St. Petersburgh, by Messrs. Robson and Sons, of London: besides a quantity of other machinery from different parts of England. The greater part of these articles are shipped, and from the respectability of the parties concerned, and the penalties attached to non-fulfilment of the contracts, there can be no doubt that all will arrive by the time specified.

PROBABLE TRAFFIC ON THE RAILWAY.

When it is considered that the population of St. Petersburgh amounts to nearly half a million, and that the great park of Pawlowsk, the property of the Emperor's brother, into which the line is carried for 1500 yards, terminating in a building for public entertainment 350 feet in frontage—is, in point of situation, magnificence, and extent, one of the finest in the world;—it may fairly be assumed that for some time at least, after the opening of the road in October next, there will be a very considerable concourse of passengers, and a corresponding increase in the value of the Company's shares.

With regard to future and more permanent traffic, it may be stated that, from inquiries instituted by the Imperial government in 1834, the number of carriages passing from St. Petersburgh to Zarskoe-Selo and Pawlowsk, and back again, was 70,386, employing 178,187 horses. At the rate of one passenger for each horse, the annual transit of persons would thus be 178,187. But as the experience of existing railroads in England and on the Continent shows, that the number of passengers is equal to three times the population on the line of road; and as the population of St. Petersburgh, Zarskoe-Selo, Pawlowsk, and their environs, is 360,000, it might be calculated that a million and a half of persons would annually pass. M. Von Gerstner, however, has, in order to be within the mark, taken only a fifth part of this number, or 300,000, as the probable total of passengers.

ESTIMATED REVENUE OF THE SHARES.

At present, the fare for a two-horse carriage is 20 to 25 rubles, and for a place in the diligence 3 rubles; the journey occupying from two to three hours: on the railway, thirty minutes only will be required, as seventeen miles of the line are perfectly straight, and nearly level; the medium rise being only 1 in 1028, and the extreme 1 in 504. The fare will be one-half of the lowest of the present rate, or 10 ruble for each, giving an annual revenue of 900,000 rubles from 360,000 passengers: deducting the half of this sum for necessary expenses—being the ascertained proportion on English railways—a net profit of 450,000 rubles, or 15 per cent. on the whole capital, will remain to the shareholders.

The future value of the shares may fairly be estimated from that of other undertakings in Russia. The shares of the first Fire Assurance Company there, were, in 1828, sold at 200 rubles, and were worth, on the 14th of last month, 1250. Of the second Fire Assurance Company, the original value of the shares in March, 1835, was 250 rubles, and rose immediately to 400. The shares in the St. Petersburgh and Lubeck Steam Navigation Company, four years ago worth 500 rubles, have advanced to 675, and the same increase might be quoted in other undertakings: the obvious reason of this is to be found in the fact, that in Russia, every projected enterprise is first investigated by the Government, and only sanctioned when its utility has been fully ascertained.

OFFICE, 8, BILLITER STREET.

September, 1836.

COAL PIT EXPLOSION.—On Tuesday, another of those accidents, so common in this part of the country, occurred in the Bog Pit, near Wakefield, belonging to Mr. Fenton. It seems that the pit has for some time been in a state of good ventilation, and that the colliers had ceased to work with lamps, inasmuch as they could get coal in a much readier way, and clear it better, with candles. The pit is worked in "shifts," and the men who worked the last shift on Monday night, left open a trap door in a road way, in consequence of which there was a collection of sulphureous air in a direction where there ought not to have been. On Tuesday morning, Richard Auty, a man about forty years of age, one of the bottom stewards, accompanied by twelve men and six boys, entered the pit. When they arrived at what is termed the "porch," it was observed that the trap door was open. Instead of ordering the colliers, who had candles in their hands, out of the pit, and proceeding to the door without a light, or with a lamp, gradually to close, and permit the circulation of the foul air in its proper direction, Auty, in the most blameable manner, entered the trap door with his candle, "to try it." The consequence was, a most tremendous explosion took place, and the pit was blown up. The whole party suffered more or less, by the fire and the "blast." The report was heard at a great distance. Thomas Bedford, another steward, with others, got to the scene of the accident by entering another pit. They found the poor creatures lying at a short distance from each other, some of them dreadfully burnt. When Bedford put his hand on Auty, the latter said—"Oh, Thomas! pray for me!" The sufferers were taken out in hurries. Auty lingered in dreadful agony until Wednesday, when he died. There are others who are not expected to recover. An inquest was held on the body of Auty, on Thursday forenoon, at the Malt Shovel Inn, Carr Gate, before Thomes Lee, jun. Esq., coroner, when a verdict of Accidental death was returned.

HEIGHT OF WAVES.—In March last an effort was made in the northern seas, by MM. Duhamel and Aigremont, the former royal judge at the Islands of St. Pierre and Miguelon, to measure the height of waves, when under the influence of a heavy swell, succeeding to a violent storm. The sea has scarcely ever been more agitated, and being without a dipsector, recourse was had to the masts of other vessels, among various other methods; the mean result was forty feet.—*Athenæum*

THE WEATHER.—M. Chevalier's thermometer, at twelve o'clock on Monday night, marked 4 3-10ths below zero of Reaumur, or 24½ of Fahrenheit; at four o'clock yesterday morning, 5 3-10ths R., or 20 F.; at seven o'clock, 5 R., or 21 F.; and at twelve o'clock, 3 R., or 25½ F.—*Paris Paper of Tuesday.*

PROCEEDINGS OF PUBLIC COMPANIES.

WHEAL BROTHERS MINING COMPANY.

A special General Meeting of the Shareholders in this Company was held pursuant to advertisement at the White Hart Tavern, Bishopsgate Street, on Tuesday the 27th inst.

J. F. HARRISON, Esq., in the chair.

The Solicitor having read the advertisement,

The CHAIRMAN observed that the Meeting having been called to receive a report, he should abstain from any observations until such report had been submitted, at the same time he could not avoid expressing the satisfaction, which he believed would be felt by every proprietor present, at the liberal and honourable course which had been pursued by Mr. Malachy since his arrival in town.

The report of the directors was then read, it adverted to the balance due to Mr. Malachy at the period of the meeting in April being held, viz. 3438*l.* 18s. 6½d.; and stated that the object of the present meeting was to take into consideration the course to be adopted, to prevent the forfeiture of the mine to the lords, by the resumption of operations, the workings at the mine having been suspended since the 5th instant, from the want of funds, and which, since that period, had been provided by Mr. Malachy, until the balance against the mine (due Mr. M.), amounted to 8295*l.* 13s. 4½d. The directors had caused the mine to be inspected by Captains N. Vivian and C. Gregor, but whose report was to be received with a considerable degree of caution. So confident however, was Mr. Malachy's opinion of the value of the mine, that he had given the directors a written undertaking releasing them and the proprietors from any personal responsibility, with respect to the balance due, provided the shareholders would advance the funds necessary for efficiently working the mine, to do which a call of 20s. per share would become necessary, and which, it was considered would be ample, The report further stated that a compromise had been effected by Mr. Malachy, with Mr. Tollervay in the Chancery proceedings.

The letter of Mr. Malachy to the effect conveyed in the preceding report, was then read bearing date 26th inst., stating, that in consideration of the disappointment the proprietors had experienced, he relinquished all claim on them personally provided that 20s. per share be oatlaid, the management of the mine being reposed in such parties as the directors or proprietors might deem fit.

The solicitor of the company proceeded to read a letter received from Mr. Blount, dated 22d inst., stating the cause of his absence, and observing on the importance to be attached to the meeting, the question being whether the money already embarked should be considered as lost, or whether, by a judicious outlay, and the observance of economy, the mine should be worked and its value proved. The letter proceeded to remark on the general opinion of miners in the county being highly favourable of the undertaking, confirmed as such opinion was by the desire of the lessor to regain possession, and recommended that a committee should be appointed fully to examine and inquire into the value of the property, doubting not but that, with the application of the necessary machinery, good profits would arise, while the writer impressed on the meeting the absolute necessity of acting in concert.

The report of Captain N. Vivian and Captain W. Gregor was then read, it detailed the work which had been done in the mine, and described the orey ground or bunches which had been discovered as being near to the surface, and taking an easterly direction; for this reason they recommended that the thirty fathom level should be driven E., to come under that part of the mine where a quantity of ore (2000*l.* to 3000*l.*) had been obtained, as also that another part of the mine should have attention directed to it, but the report was generally expressive of their opinion being of an unfavourable nature as to the prospects of the mine, and although it could be worked only four months in the year without machinery being employed, yet so unfavourably did they hold the adventure, that they could not recommend any outlay in the erection of a steam engine.

The accounts were then read to the meeting, which led to a lengthened discussion on the items of which they were comprised—more particularly there being included the difference in the value of the ores, said by Mr. Malachy to be worth 4000*l.*, at which sum he offered to take them, and 600*l.* the amount for which they were subsequently sold. The accounts stood thus:—Amount of balance in April last 3438*l.* 14s. 6½d.; monthly costs from April to November, inclusive, 1283*l.* 18s. 0d.; which with cost of supplies and other charges, making a total of 5939*l.* 9s. 9½d.; to which was to be added the difference in the sale of ores referred to, making in all 8295*l.* 13s. 4½d.

The CHAIRMAN, with reference to the report of Captains Vivian and Gregor, observed that Captain Vivian had been recommended to them by Mr. English, and that he (Captain V.) had been requested to nominate some other Mining Agent, the result of which was the appointment of Captain Gregor. The report made by these gentlemen was not, in his opinion, in accordance with the real value or the prospects of the mine, nor did Mr. Malachy concur in them, that gentleman having expressed his opinion that the mine never looked so well as it then did. He would further add that, in his estimation, the opinions of the Agents deputed by the Directors to examine the mine were not to be relied on, inasmuch that although they were, perfectly competent as giving a report on copper mines, still that in his opinion he considered them inadequate to render that service as regards silver mines. The Chairman entered also very fully into Mr. Malachy's letter, and observed on the line of conduct pursued by that gentleman, which he characterized as highly honorable, and doing him infinite credit, indeed no stronger evidence could be adduced than the act of Mr. Malachy in giving up all claims as affected responsibility for the amount of 8295*l.* 13s. 4½d., then due to him, on the shareholders undertaking efficiently to try and work the mine, by the further advance of twenty shillings per share, and which, in hisopinion as well as others', would be ample for the purpose.

The conversation which ensued will, perhaps, be best understood from a summary report, merely noting any particular expression which fell from any proprietor, as it would occupy far too much space to furnish a faithful report, otherwise than in a condensed form.

As we have before observed, much discussion prevailed on the subject of the accounts, more particularly with respect to the difference which arose on the sale of the ores for 600*l.*, which Mr. Malachy, it was stated, had agreed at the meeting in April to take at 4000*l.*, and therefore, in the opinion of certain proprietors, such balance should not appear to the debit of the adventurers; this led to an explanation on the part of Mr. Malachy, in the course of which he expressed his readiness to comply with any measure which might appear to the proprietors to be equitable, at the same time, that he did not consider it fair or reasonable to expect he should be at the loss of the difference to which reference had been made.

Mr. BOURDILLON, as a considerable shareholder, could not but feel that the proposal made by Mr. Malachy was fair, and all that could, or indeed ought to be expected. He would say, that in his opinion, from his knowledge of Mr. Malachy, that if he made the offer, whatever it might be, he would fulfil it to the letter. He would, however, suggest to that gentleman, that the amount referred to should be held in suspension, while if the mine turned out well, there could only be one feeling, one wish, on the part of the proprietors, and most certainly not that of deriving advantage at the cost of their agent.

It was suggested by a shareholder, that Mr. M. should suspend his claim until five per cent. be received by the proprietors; it was, however in the end resolved, that the balance due to Mr. Malachy should be repaid, to him out of the proceeds of the mine, except that of the balance of ores sold, which should not be repaid to him until the 5000*l.* at present required to be advanced by the shareholders should have been returned to them, the secretary having, in the course of the discussion, stated that he had a perfect recollection, that at the meeting held in the month of June, when Mr. Blount was in the chair, it was the chairman's opinion, in which the meeting coincided, that the amount should not be charged to Mr. Malachy, but allowed to him out of the proceeds of the mine.

Reference having been made to the nomination of Captains Vivian and Gregor, to report on the mine, and whose report evidently did not give satisfaction to the chairman and the meeting, in which Mr. English's name was mentioned as the party at whose suggestion the selection had been made,

Mr. ENGLISH rose for the purpose of explaining, that in mentioning the name of Captain Vivian to the directors, he spoke of him, in common with other agents, as a gentleman conversant with mining, but with whom he had but a slight personal acquaintance, and, therefore, that the appointment must not be considered as made by him.

Mr. BOURDILLON observed that, in his opinion, Captains Vivian and Gregor were men of undoubted integrity, and possessing high mining talents, but, at the same time, he thought it very likely to be true, that although good copper miners, they might be perfectly ignorant of silver mines, while he was aware that considerable prejudice existed in the county with respect to the value of silver lodes.

The CHAIRMAN observed, that he perfectly coincided with the shareholder who had just addressed the meeting. The report made by Captain Vivian on the East Wheal Brothers Mine, where he had discovered a copper lode, was of a far more satisfactory nature, although the mine was not so extensively developed as that of Wheal Brothers, in which latter mine that gentleman had not, however, discovered a copper lode, and hence the report not being of that satisfactory nature which might otherwise have been contemplated.

Mr. BAUGHAM wished to enquire from Mr. Malachy, what was the nature of the power he intended to employ for unwatering the mine, whether by steam or otherwise, as he felt that, after the explanations afforded, it was important to know Mr. Malachy's views, and in case of the erection of an engine, then he wished to learn the cost.

Mr. MALACHY, in explanation, observed, to give the mine a fair trial it would be indispensable that an engine should be erected of from thirty-six to forty inch cylinder, the cost of which might be estimated at from 1000*l.* to 1200*l.*; as the rods and other machinery applied to the waters wheels, might be employed, merely requiring a change. Indeed, without an engine, the mine could only be worked three to four months in the year, there being six months dry weather, and it requiring three to four months for clearing the ends.

The CHAIRMAN observed, that by the erection of an engine much benefit would accrue to the Wheal Sisters mine, which company would, indeed pay a portion of the expense of the erection and the cost of working the same, the saving to which mine would alone in time be at least eight to twelve months.

Mr. R. HICHENS enquired of the chairman whether the Wheal Brothers proprietors might contemplate the Wheal Sisters adventurers joining in the expense, to which the chairman replied in the affirmative, referring at the same time to Mr. English, who was present, and who had acted on behalf of the shareholders in that company.

Mr. ENGLISH having been called upon, stated that he considered any remark made on the present occasion would be premature, as a meeting of the Wheal Sisters adventurers was to be held on the following day; he admitted, however, that a negotiation had taken place, although the terms proposed by Mr. Malachy had not been assented to by him.

Mr. RAWLINGS rose to move an amendment to the resolution which had been previously submitted to the meeting by Mr. Smith, and which was to the effect, that the report read should be received, and the recommendation of the directors adopted, subject to the repayment of the balance due to Mr. Malachy, in accordance with the terms previously adverted to. In the course of the observations made by the proprietor, he remarked strongly on the circumstance of the ore having been valued at 4000*l.* by Mr. Malachy, and which only produced 600*l.* It was upon representations such as these, and reports of the most fallacious nature, that the shares had been carried to the price of 40*l.*, and which were comparatively now not worth 40s., so deceived had the proprietors been. It was under these circumstances, that he thought not only was an explanation due from Mr. Malachy, but that the shareholders would not be justified in making any further advance without the appointment of a committee to investigate the affairs of the company.

The amendment was seconded by Mr. HOWLETT, and some remarks made on the small quantity of ore raised since the preceding meeting.

Mr. MALACHY explained, that from want of power during the dry season, he had been precluded from working on the lode, except for about six weeks, during the time which had intervened.

Mr. BOURDILLON observed, that the appointment of a committee appeared to him to be absurd, for, if appointed, would they go down and examine the mine, and, if they did, were they, he would then ask, competent to the office; if any charge existed with reference to the accounts, he could see no objection to the appointment of gentlemen to inspect them, indeed, he would vote for such a course, but most certainly, not to interfere with the works of the mines, as he considered the meeting fully competent to arrive at a conclusion on this point, and which was, whether they would go on with the mine or not.

Mr. DEW addressed the chairman on the subject of the appointment of a committee, observing that the explanation of Mr. Malachy, that they had been only six weeks at work, while 1200*l.* or 1300*l.* had been expended, was, he considered, in itself a reason why a committee should be appointed.

Mr. FARRER observed, that the miscalculation referred to appeared to him to be very extraordinary, and he should have been glad had an explanation been afforded. The statement made in April last had tended considerably to mislead the shareholders, and to give a false value to the property. He considered, if Mr. Malachy was to have the management of the funds of the Proprietors, he should be at least competent to form an estimate of the value of ores, with which he was naturally supposed to be conversant, and he trusted that, in future, when estimates were made, that gentleman would lean on the other side, by attaching a less value to them rather than a greater. The offer of Mr. Malachy, under the circumstances, he considered handsome, and he should readily subscribe his 1*l.* per share which was required, indeed it would be madness not to do so, when it was considered that the mine was valued, some short time since, at 100,000*l.* He could not help observing that, on reference to the accounts, it was apparent that had not dividends been *managed* to have been made, and that from a false estimate of the produce, and not from the real value, the mine would not now be in debt.

The amendment, after further discussion, was withdrawn, and the original motion carried, the amendment having however, in another shape, been subsequently submitted as an original resolution, which having been seconded by Mr. Harrison was passed unanimously, and a Committee appointed, whose duties however were confined to the examination of the accounts. The following gentlemen were named:—Messrs. Rawlings, R. Hichens, English, Garland, Wace, J. Hutchinson, and F. W. Medley.

It is only justice to Mr. Malachy to state that throughout the proceedings he manifested every desire to meet the wishes of the Meeting, and expressed his perfect readiness to retire from the management of the mine, although a proprietor of one-fourth the number of shares, in such case tendering his best services, however, to promote the general interests.

The Directors, through the Chairman, also evinced every desire to afford information, and to whom, previous to the Meeting separating, a vote of thanks was passed.

WHEAL SISTERS MINING COMPANY.

A Special General Meeting of the Shareholders in this Company was held on Wednesday the 27th instant, at the White Hart-tavern, Bishopsgate-street, J. F. HARRISON, Esq. in the chair.

The advertisement convening the meeting having been read from the *Mining Journal*, and some preliminary observations made by the chairman, the following report of the directors was read.

REPORT.

The directors have convened the present meeting of the shareholders in consequence of the intimation from Mr. Malachy, the manager of the mine, that he can no longer continue to make advances necessary for the further working of the same, and, that for want of the supply of funds, he had suspended all operations. Upon the receipt of this intimation the directors deemed it necessary to make a call upon the shareholders of ten shillings per share, which will not only liquidate the debt due to Mr. Malachy, but furnish them with funds for the future workings. At the same time, they deemed it would be more satisfactory to the proprietors to have a report of the present state and prospects of the mine by persons wholly unconnected with it, and whose skill and judgment in mining operations might be relied on; and therefore, they, at the recommendation of one of the shareholders, engaged the services of Captain Nicholas Vivian, with instructions to call in the aid of any other person whom he might consider most competent. He accordingly availed himself of the assistance of Mr. William Gregor, and the directors have received the joint report, and in presenting that report to the shareholders, the directors feel it necessary to say that they have since been informed, that although these gentlemen deservedly stand high in public estimation as experienced and practical tin and copper miners, yet that they have had but little experience in silver mining, and that, consequently they cannot recommend reliance to be placed on that report; in opposition to the opinion of Mr. Malachy whose long experience in silver mining entitles his opinion to great deference.

The directors are assured by him that his opinion of the success, and value of the mine is unaltered, and that it is only necessary to work the mine with

vigour, and with sufficient power, to produce the results which he has always anticipated.

The directors beg to recommend to the shareholders the appointment of a committee from themselves, to co-operate with the directors in obtaining any further investigation of the mine, and to examine the accounts of the company, and especially with regard to the erection of a steam engine, for the draining of the mine, and the proportion of the cost to be borne by this company, should it be erected on Wheal Brothers Shaft, which is allowed on all hands, to be the most advantageous site for it.

The directors cannot but appeal to the shareholders for the prompt payment of the call made, to enable them to liquidate the existing debt of the company, and to prosecute the further working of the mine. The directors beg to present to the meeting a statement of the accounts of the company, up to the present time, shewing a balance due to Mr. Malachy of 1188*l.* 12s. 4½d.

The report of Captain R. Vivian and Gaptain Gregor was then read. It briefly stated, that having examined the mine, they found the adit level to have been driven 104 fathom, the lode throughout being generally poor, except at Wall's shaft, where about 700*l.* worth of silver had been raised, the ten fathom level had been driven 108 fathom, and Wall's shaft sunk to this depth, and that stones of silver ore had been occasionally discovered. The twenty fathom level had been driven fifty-three fathom, and this presented in their opinion the most uninteresting part of the mine. It was far from their desire to throw a damp on the adventure, but they could not but confess that the mine had had a satisfactory trial. In conclusion, they observe that silver mines have seldom or ever been found to remunerate the adventurers. Silver ore they observe being occasionally found at shallow depths, but is not known to hold down.

The accounts of expenditure were then read, the monthly cost from May 1835, to November, 1836, amounting to 1146*l.* 12s. 4½d., to which was added interest 42*l.*, making a total of 1188*l.* 12s. 4½d.

The following letter from Mr. Malachy, dated Dec. 27, was then read:—

Having had an opportunity of looking at the report of Messrs. Vivian and Gregor on this mine since I arrived in town, I think it due to you and the shareholders not to allow such report to take a lead upon your minds, without a comment upon it. In reporting on the adit level they say "the lode, generally speaking, is poor and unproductive, except at Wall's shaft, where we are informed was found a deposit of silver worth about 700*l.*" It may be proper here to inquire how these inspectors know that the adit has been, "generally speaking," poor and unproductive? Why, they tell us how they acquired their knowledge of one part of it, in three words, namely, "we are informed!" Now, had they candidly stuck to this text, and confessed that "we know no more of this mine than what 'we are informed,'" it would have done them credit. For it is well known they are ignorant of a silver lode, nor are they capable of distinguishing silver ore, or its indications, from the general strata, or matrix of the lode. The presumption of these inspectors in undertaking to report on this mine, is most unpardonable.

But to proceed with the analysis of their report, they tell us that at the ten fathom level "the lode maintains the same appearance, with occasionally producing stones of silver ores." In this remark these inspectors were not aware that they were giving (in the view of practical men) the most highly favourable report possible—the regularity of the lode, with occasional stones of silver ores—at a ten fathom level, is a character sufficient to encourage the most strenuous perseverance.

At the twenty fathom level they say the lode looks "uninteresting." Here we give them credit for their caution; what they mean by "uninteresting," they leave for the "curious to construe," Had they stated their view in detail at this level, as they have done at the ten fathom level, we could have dissected it, but they were evidently afraid to go that length.

To wind up the whole, they have the weakness to tell us that this mine, in their opinion, "has obtained a very full and satisfactory trial!" The notorious inconsistency of this assertion is completely verified by their own reports on the two mines east and west of Wheal Sisters, and on the self same lode.

It is well known that Captain Vivian's report on East Wheal Brothers is of the most flattering and encouraging kind, and in their joint report on Wheal Brothers they recommend driving the thirty fathom level east and prosecuting the forty fathom level! where they acknowledge silver ore is now in sight, which is twenty fathoms deeper than the deepest part of Wheal Sisters.

Mr. Malachy, on the suggestion of a shareholer, rose to offer some further observations on the report of Captains Vivian and Gregor, in the course of which he expressed his surprise that persons should have been selected to examine and report on a mine who were incompetent to form an opinion whether ore was worth five or fifty pounds per ton. He was ready to admit that they were experienced copper miners, but they certainly did not understand the working of a silver mine. If the proprietors wished to have the mine inspected, they should have selected agents who had been abroad, and who knew the value of this description of ores.

The Chairman fully concurred in all that had fallen from Mr. Malachy with reference to the report, and expressed himself notwithstanding its unsatisfactory nature, as being still of opinion that the mine would fully answer all their expectations, and that the present call of ten shillings per share would, if promptly paid, be ample, not only to liquidate all charges, but to bring the mine into a state of profit. He further suggested that a committee should be appointed who should, amongst other matters to which their attention would be directed, consider the erection of a steam engine. The chairman also observed, that in the appointment of Captain R. Vivian, the directors had been advised by one of the largest shareholders to select that gentleman as one fully competent.

Mr. English, the party referred to, negatived this latter statement, never having given an opinion on the ability of Captain Vivian to inspect a silver mine. He had, on the occasion to which reference had been made, certainly mentioned the names of Captains Vivian and Gregor, with reference to machinery, which it was proposed to erect; he had but a slight personal knowledge of the former gentleman, but considered him a proper person for the business to which he proposed his attention should be directed, and to which the conversation was confined.

Mr. Malachy confirmed the view taken by Mr. English, as to the competency of the parties to determine on subject of machinery, and was perfectly satisfied to leave that question to them; indeed, he did not think it could be in better hands; but for them to report on a silver mine, with the ores of which they were perfectly unacquainted, was absurd.

The Chairman, after some general observations on the expediency of appointing a distinct direction for the affairs of the company from that of Wheal Brothers, as also the propriety of the agents at the mine being different, and that the ores should be kept separate from those of the adjoining mine, (which had not hitherto been the case) proceeded to read a resolution which had been placed in his hands for the appointment of a committee, who should have full powers to examine and report upon all accounts of the company, and take into their consideration the amount of arrears, and also the probable sums of money which may hereafter be required to work the mine; as also, the subject of the erection of a steam-engine at Wheal Brothers, and the proportion of cost, if any, which should be borne by the proprietors of Wheal Sisters.

This resolution having been moved by Mr. English, and seconded by Mr. Dew, was after some trifling alterations as to the wording, carried unanimously.

A conversation ensued on subject of the steam-engine, in which the chairman, Messrs. Malachy, Pilchard, and English, took part, when the latter observed, that he considered this was a fit subject to be referred to the committee for them to report upon, and more especially, as a question existed, whether, by an agreement which was in existence, the Wheal Brothers adventurers were not bound to unwater the Wheal Sisters set. He had entered into a negotiation on the subject, but he could not assent to the terms proposed. He begged to enquire of Mr. Malachy what number of fathoms could be driven a month on the course of the lode of Wheal Brothers towards the Wheal Sisters set, the distance from the shaft being eighty fathoms; and he begged to set the chairman right in an observation made by him, that it would save some months of time; as, on the other hand, he assumed it must take eight to ten months to drive that extent on the lode at the lower level, although it was likely, that after passing through a hard bar of ground, which was known to exist, the water might, from the nature of the lode, be drained from Wheal Sisters set. He considered it, however, premature then to entertain the question, and should not have risen to make any remark, had he not felt called upon to do so, to prevent any false impressions arising from the statements made by the chairman and other gentlemen on the subject.

Mr. Malachy, in reply, observed that twelve fathoms per month could be an average readily driven on the lode.

Mr. Smith, and several other proprietors, having taken part in the discussion, a Committee of seven shareholders, consisting of Messrs. N. S. Price, H. English, J. Camps, Gibbs, R. Wace, W. S. Dew, and Charles Woodman were elected, and the meeting adjourned for twenty-one days, at the expiration of which time the Committee are to make their report. Previous to the meeting breaking up the thanks of the proprietors were voted to the chairman and directors, for the readiness they had evinced in assenting to the wishes of the shareholders in the appointment of a committee, and more particularly to the chairman for the urbanity he had displayed in his conduct in the chair that day.

RIO DE ANORI GOLD-STREAM WORKS COMPANY.

In our last we briefly noticed the proceedings at a Special General Meeting of this Company, held on the 23rd instant, and intended this week to have presented to our readers a more detailed report. On looking over our notes, however, we find that the business of the Meeting being confined to the two points to which we have already made reference, the appointment of a second Agent, or authority being given to the Directors to remit the money to Captain Mathews, Mr. Nesser not being within some ten days' journey of the works, and being otherwise engaged, as well as the necessary supply of tools, it is not worth while to enter into details.

In the course of the discussion, Messrs. B. Wood, Deacon, Perry, Saunders, and other proprietors, took part, but a considerable portion of the time occupied was on matters of form. The resolutions agreed to were, that the appointment of a second Agent should be for the present deferred, that the sum necessary to be remitted should be sent to Captain Mathews, who should also have power to apply the balance remaining in the hands of Mr. Nesser, and further that the tools required should be sent out without delay. The other matters referred to might be considered as mere matters of detail for the consideration of the Board of Directors.

ORIGINAL CORRESPONDENCE.

SOUTH POLGOOTH MINING COMPANY.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—Observing in the daily papers an advertisement signed by the secretary of the South Polgooth Company, stating that a number of shares have been declared "irrevocably forfeited" by the directors, for the non-payment of the call due 3rd October last, I beg to call your notice to the circumstance, being a shareholder who objects on principle, to pay the amount so called, the whole of the shares not having been issued to the public, and consequently my twenty shares (a small number I will admit) requiring instalments to be made equally as if my number was twenty-five. I am one of humble means, and have been, like many others, induced to embark in mining speculations on the representations of a prospectus: and I would beg leave to observe, sir, that if I be deceived as to the responsibility I incur, although I have the prospectus and my scrip to bear me out, how am I to judge of the correctness of any other representations made in those documents, which induced me to embark my little capital. I have read with satisfaction the remarks you have occasionally made, cautioning the public from becoming the dupes of those projectors with which this city has teemed so fully, but unfortunately too many of us had already embarked, and, instead of making the first loss, as I find to my cost, would have been the most prudent step, we have held to the wreck until hope seems almost gone. It is well for you, sir, to advocate the payment of calls, and that the proprietors should not forfeit their shares, but there is such a thing as inability: I hear much of the money market pressing at this moment; my affairs are too humble to be materially affected by that circumstance, but I have embarked I find more than prudence, had it had its sway, would have allowed me to do, or, indeed, was I justified in doing, and therefore, sir, I think it is not too much to ask, that the directors of those companies in which we have entered on the faith of the prospectuses put forth, and the respectability of their names, should afford us some information—some satisfactory explanation, I would say, for a deviation from their prospectuses, which seduced us, ere they forfeit our shares. You will perhaps find room for this, or give the subject your attention, in such manner as you think fit, and which you are so capable of doing. I am, sir, yours, &c. H. Johnson.

Clerkenwell, Dec. 30.

[We have to direct the attention of our correspondent to some remarks which will be found in another portion of our columns. We do not know how far the law of the case goes, but we agree with him as to the hardship, and can only express a hope that directors who are paid for protecting the interests of the shareholders generally, will not sacrifice them hastily. We have referred to the advertisement which says the call and postponement have been duly advertised, and we presume this to be the case, but the regulations on the certificates, doubtless point out the course to be pursued. Our correspondent will observe that we have omitted his postscript, for obvious reasons, as he will readily comprehend.—Ed. M. J.]

RUSSIAN RAILROAD.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—Having lately returned from St. Petersburg, and observing that a paragraph has made the round of the papers, detracting from the merits of the railroad there, a sense of the injustice done to all parties concerned induces me to make a few observations on that undertaking. The remark that the road is so badly constructed that it will require to be repaired in the spring, would have been more fairly expressed had the writer stated, that, from the facility with which the embankment has been constructed, the rails can only be finally adjusted when the embankment has properly settled down, and as this is the case on every other railroad, no greater inconvenience is anticipated in this instance, all the arrangements provided for making good any defect, being so judicious that little inconvenience or expense will be incurred. I do not, therefore, see how this remark of your correspondent can apply. The impossibility of traffic in the winter can be but a mere assertion of those whose ideas do not go beyond conjecture, and the conjecture as to the probable number of passengers is quite erroneous and unfounded. The patronage of the Imperial Family to this undertaking, and the facility with which the public are enabled to enjoy their beautiful parks, gardens, &c., will soon prove this. Having been engaged to design and superintend the laying out of the pleasure grounds, and the introduction of hydraulic, mechanical, and picturesque decorations at the terminus, delightfully situated in the park of Pawlowsk, where a very extensive building is erected for the entertainment, comfort and convenience of visitors and passengers, and where it is the intention to vary and keep up interesting exhibitions and amusements. I have for some months had the opportunity of witnessing its progression. You will serve the good cause by publishing the substance of this letter in your valuable Journal, and oblige, Sir, your obedient humble servant,

Gray's Cottage, Camden Town. S. Gray.

[Our correspondent is, we have reason to believe, the designer and constructor of the picturesque and mechanical embellishments of the Colosseum, and to whom has been committed the general decorative and other arrangements, since the departure of Mr. Horner, the original proprietor. —Ed. M. J.]

Surrey, Sussex, and Kent Joint Stock Bank.—This Bank opened a branch at Brighton, on Monday last, with, as we are given to understand, every prospect of success, having already met with much encouragement and support from influential parties in that town.

History of the Earth.—The earth itself relates its own history. No historian ever composed such a narrative of extraordinary events, or depicted them in such intelligent characters. The geological history of the earth tells us, that there was a period when there was not a living being upon the surface of the globe. The primary rocks have not yet been found to contain a single fossil, or any vestige of animal life. The first forms of life that were placed upon the habitable globe seems to have been of the most simple kind; and successive generations of these grew up and perished, lived and died, before beings of a more complicated structure were introduced. The scale of being commenced with a simple living fibre or tube, like the polypi, with an inherent tenacity of life, that does not belong to organizations with more instruments of sense, more complexity of structure, or more extent of powers. Lichens and mosses, and ferns, appear to have been among the first specimens of vegetable existence. The different strata of the earth are vast pages in the geological history of ancient, but unnumbered days, which exhibit the recreements of extinct species of animated beings that successively inhabited the earth and ocean; of which we know that they have been, but they have now ceased to be. Whole generations of beings that once were, have perished without leaving any progeny, and the only memorials which they have left of themselves are in their forms of skeletons that have been preserved in the ancient stratifications of the globe.—*Fellowe's Religion of the Universe.*

ON THE SOLIDIFICATION OF SILVER IN FUSION.

The Editor of the *Railway Magazine*, in introducing "The Result of the Experiments of M. Furnet, as applied to his new Theory of Volcanic Formations," which appeared in the *Mining Journal* of the 3d December, says—"We have ourselves since seen a specimen in a plate of silver of 1500 oz., made in refining pig-lead at the works of Messrs. Walkers, Perkin, Walker, and Co., at Newcastle, and the description here given is most faithful. We have also been assured by one of the firm, that the phenomena were precisely as described in the account. We, however, by no means agree in the inferences drawn respecting the once greater heat of our earth. We think we are in possession of much sounder philosophical principles, and can mathematically demonstrate from phenomena the contrary.

Since writing the above we have seen at Messrs. Savory and Co.'s, silversmiths, Cornhill, the above piece of silver cut transversely across the highest ridges of it. The whole of what may be called the natural level or bed of the silver was solid, but the parts that had been raised up, which were two inches elevated in some places, though more solid than we expected to find them, yet, towards the upper portions particularly, contained several hollow spaces, some of them from one to two inches in length and breadth and half an inch deep, arranged chiefly horizontally, and presenting fine miniature specimens of caverns, and those vast receptacles, philosophers have imagined to produce the phenomena of natural intermitting, and reciprocating springs."

The Grand Junction Railway Viaduct.—This gigantic structure across the valley of the Weaver, near Dutton, in Cheshire, which is now near its completion, exceeds in magnitude any thing of the kind yet accomplished in this country, or perhaps in Europe, not even excepting the splendid bridge over the Menai Straits. The viaduct is of the Gothic order, formed of red stone procured from the neighbourhood of Bolton and Runcorn; it consists of twenty arches of sixty feet span and sixty feet in height, and the battlements, when finished, will add twelve feet more to the height, and the whole length is 1400 feet. 700,000 square feet of stone have been used in the work, and it will be completed in less than eighteen months from the time of its commencement, and at an expense of 50,000*l.*, being considerably under the estimate.

The Central Kentish Railway.—This company not having lodged the plans and sections agreeable to the standing orders, intends to appear in parliament merely as a *competing line.—Railway Magazine.*

Railway Shares.—The revising barrister for South Durham has decided, that the shareholders of a railway, having an annual forty shilling interest in the undertaking, are entitled to be registered as voters for the county.

London and Birmingham Railroad.—The tunnel at Primrose-hill, will be completed about the 10th of January next, the whole length is 1105 yards.

Important to Shareholders in Mines.—The Hon. Commissioners of Excise, in consequence of a report from their solicitor, W. K. Dehany, Esq., have decided that shares in mines sold by auction are exempt from the auction duty.—*West of England Conservative.*

Transatlantic Steam Navigation.—The British and American Steam Navigation Company have entered into contracts for the building of vessels. The engines, of 460 horse power, to be ready to go on board on the 1st of September and the first vessel to start on her passage on the 1st of March following. She is to have capacity for twenty-five days' fuel, 600 passengers, and 800 tons of measurement goods.—*Gore's Liverpool Advertiser.*

Iron Trade.—In this and the last week twenty-two furnaces have been blown out in the iron works of this district. The number of workmen thrown out of employ will be much less than is generally imagined, as *all* the miners, and far the greater number of colliers have abundant employment. The actual discharge will consist only of the founders, fillers, a few cokers, and barrow loaders, who will probably find employ in other branches.—*Merthyr Guardian.*

Standing Order.—By the new standing order of parliament, if acts be not obtained for the construction of railways in the ensuing session, in order to obtain such in any subsequent session, the plans, sections, &c. for such must be deposited with the clerks of the peace in the March preceding such application, in place of Nov., as hitherto; the effect of this arrangement will very materially throw back those public companies which are not now prepared for the coming session.

Captain Cobb's New Steamer.—Extract of a letter from Captain Cobb to a friend in Liverpool, dated Nov. 15, 1836:—"I am progressing with my steamer, and could launch this month, but the delay of the machinery will prevent me, and make it quite uncertain when I shall be ready to test our newly-invented boiler, by which we anticipate a saving in fuel of seven-tenths of the quantity now used. My steamer is long, narrow, and flat, and intended to displace but little water, with two engines of 150 horse power each, horizontal, and principally under deck, with chimneys or smoke pipes."—*Gore's Liverpool Advertiser.*

The British Association.—This association, for the advancement of science, holds its next meeting at Liverpool, in the month of September. As the railway almost annihilates the distance between Liverpool and Manchester, and will doubtless be put into considerable requisition on the occasion, the meeting may be said to be held at both places united, or at the "manufacturing capital" of England. Thus each meeting since the commencement will have been held in a place ranking, in some degree, as a metropolis. In 1831, at York, the capital of the north of England; in 1832, at Oxford, and in 1833, at Cambridge, the two capitals of learning; in 1834 at Edinburgh, and in 1835 at Dublin, the capitals of Scotland and Ireland; and in 1836 at Bristol, the metropolis of the West of England. Birmingham will probably be the next point of union, in virtue of its station, as "the midland metropolis."—*Mechanics' Magazine.*

Prices of Foreign Coin in the United States of America.—At this time, when the money market is so much deranged in England, and by the interruption also of credit in some degree in the United States, it may be convenient to our readers to know that the Government of the United States, in order to increase the currency, and to bring gold into use as a circulating medium, concurrently with silver, passed an act of the 28th June, 1834, declaring the gold coin of Great Britain, Portugal, and Brazil, if not less than twenty-two carats fine, a legal tender at the rate of 94 8-10ths cents per pennyweight; and the gold coins of France 9-10ths fine at the rate of 93 1-10th cent. per dwt.; and the gold coins of Spain, Columbia, and Mexico, of the fineness of twenty carats, &c., small fraction, at the rate of 89 9-10ths cents per ewt. These enactments have had a salutary effect upon the currency in the United States, but were not deemed sufficient, and a gold currency has therefore been provided in large quantities.—*Prince's Price Current.*

The Comet.—Sir John Herschell, in writing to M. Arago, says, "I have here (Cape of Good Hope) been favoured with a long and beautiful exhibition of the comet on its return from the sun. It was in sight from the 24th of January till the 5th of May. In its passage from its perihelion it must have been seen with great difficulty in Europe, for its physical aspect was quite changed. For a long time it had no tail; the parabolic envelope of the head was formed with such astonishing rapidity that its visible volume was more than doubled in the space of twenty-four hours. I may say, without exageration, that I saw it augment, for on the morning of the 26th of January, on repeating my micrometric observations of the well-defined part, after an interval of three hours, I found an increase in its linear dimensions equal to a sixth part of the whole. This extraordinary dilatation continued, and the paraboloid became so large and lustreless, that it at length entirely disappeared, leaving only the nucleus and the tail of the star. Another, and a singular peculiarity, was the existence of a very small interior comet, having a head and tail complete—its nucleus was that of the general mass. This cometic nucleus dilated less rapidly than the envelope, and, at the end of the period of being visible, the tail itself became imperceptible."

Russian Publishing.—We observe by the *Bibliographie de la France*, that in 1834 there appeared in Russia 844 works, of which about one-eighth were translations. The number of scientific works was 430, of which 359 were original. Of works purely literary there were 271, of which 226 were original. Of the 841 works, 541 were in the Russian language; 37 in Polish; 3 in Samogitian; 91 in German; 26 in Lithuanian, Esthonian, Finnish, and Swedish; 36 in French; 1 in English; 3 in Italian; 1 in Dutch; 46 in Latin; 3 in modern Greek; 1 in Arabian; 1 in Persian; and 54 in Hebrew.—*Athenæum.*

MEETINGS OF SCIENTIFIC BODIES
IN THE ENSUING WEEK.

SOCIETY.	PLACE OF MEETING.	DAY.	HOUR.
Zoological	28, Leicester-square	Tuesday	8½ P.M.
Geological	8 merset House.	Wednesday	8½ P.M.
Royal Asiatic	14, Grafton-street	Saturday	2 P.M.
Entomolo gical	17, Old Bond-street	Monday	8 P.M.

PUBLIC COMPANIES.

MEETINGS.

London and Croydon Railway	London Tavern	Jan. 10	1.
New South Hooe Mining Company	1, Freeman's-court	14	1.

CALLS.

Minas Geraes Mining Company..	2l.	Jan. 2d	Barclay, Bevan, and Co.
Wheal Acland Mining Company	10s.	2d	
Huel Grose Mining Company..	10s.	2d	"
Wheal Lenoy Mining Company	2s.6d.	2d	R. K. Frost, Launceston.
London Grand Junction Railway	1l.	3d	Jones, Lloyd, and Co.
Combmartin and N. Devon M. C.	10s.	6th	Nat. Prov. Bank of England.
British Copper Mining Company	5s.	10th	
North Consols Mining Company	10s.	10th	"
South Polgooth Mining Company	10s.	10th	Prescott, Grote, and Co.
Wheal Sisters Mining Company..	10s.	10th	Vere, Sapte, and Co.
Blaenavon Iron and Coal Co....	10l.	15th	Sir J. Esdaile, and Messrs. Masterman and Co.
Wheal Harmony and Montague..	1l.	16th	
South-Eastern Railway	5l.	18th	Sir J. Esdaile & Co.; Messrs. Moss & Co., Liverpool; Manchester and L'pool Dist. Bk.
Jamaica Steam Navigation Co...	2l. 10s.	Mar. 1st	Glyn, Halifax, and Co.
Kefn Lead Mining Company .. .	1l.	15th	Spooner, Attwoods, and Co.

DIVIDENDS.

West Middlesex Water Works		5th Jan.
Birmingham Canal Navigation	4l. 18s.	5th.
Wicklow Copper Mining Company	10l. per cent.	5th.
Bolanos Mining Company	5l. per share	9th.
Mexican and South American Co.	10s.	9th.
Southwark Bridge	1l. 15s. per cent.	14th.
Portsmouth and Farlington Water Works		April.

NOTICES TO CORRESPONDENTS.

The state of the weather having delayed the arrival of the mails, is the cause of the non-insertion of the Ticketing Papers of Sales of Ores, and other matter which will appear next week in an Enlarged Sheet.

INDEX AND TITLE PAGE.—These will be furnished with our next number, with some introduc ory observations.

The letter of T. W. W. has been received and will receive attention.

THE MINING JOURNAL,
And Commercial Gazette.

LONDON, DECEMBER 31, 1836.

It is natural, at the close of the year, to take a general and retrospective view of those circumstances towards which our attention has been previously directed in detail, as they were successively brought under notice by the passing events of the day. Such a retrospect we now propose to take of those important branches of industry, having for their object the production of mineral wealth, to the interests of which the MINING JOURNAL is exclusively devoted. It is satisfactory to find that the past year has, on the whole, been a prosperous one, as regards the mining interest, although, in some kinds of mineral produce, there has been much fluctuation, and latterly a considerable decline.

Commencing with *coal*, as the most important of our mineral products, there appears to have been the usual steady and adequate demand, from which a fair and remunerating price has naturally resulted; we may infer also from the general absence of those *strikes* among the working miners, which have at former periods produced such unfortunate consequences, that the relations subsisting between them and their employers have been more satisfactorily adjusted, and that the price of labour has borne a fair proportion to that of the article produced.

The *iron* trade, flourishing in the earlier part of the year, almost without precedent, has considerably declined in activity towards the close, but is still by no means depressed. This circumstance, resulting from the completion of many foreign orders, railway contracts, &c., which had previously given a great temporary stimulus to this branch of mining, must, however, have been foreseen from the first; and as the iron-masters have very prudently decreased the *make* in proportion to the smaller demand, there is every probability that a fair and remunerating price will still be maintained.

The *copper* trade has been throughout the year in a sound and prosperous state, the metal not having materially fluctuated in its price, which has been such as to afford satisfactory profits to the miner, and enable the more successful mines, both of England and Ireland, to pay very considerable dividends to the shareholders. It is pleasing to find that, notwithstanding the extreme richness of foreign deposits of this metal, the improved state of the art of mining in this country enables our deep and expensive mines thus successfully to support a contest against others, in many respects possessed of so much greater advantages.

The *tin* trade has been lately so often before our readers, that we need here say but little respecting it. The general price of this metal has been high, and as the fluctuations which it has undergone have been in a great measure artificial; when the source of this fluctuation shall have been removed, it will, we have little doubt, continue to be remunerating. More than this is perhaps hardly to be desired, as any such temporary advantage might speedily occasion serious and permanent evil.

The *lead* trade appears to have permanently recovered from that ruinous depression which for so many years hung over it; and at the price this metal now obtains, fair profits may be obtained from the more productive class of mines. Having successfully encountered the severe and long-continued competition of the Spanish lead-mines, we have hopes that this branch of mining industry has now before it a season of prosperity, sufficient to counterbalance its former protracted period of adversity.

Having thus briefly adverted to some of the most important topics connected with the mining interests, we may now appropriately glance at the results afforded by the more recent mining companies, of whose operations ample details will have been found in our columns. These operations, we regret to say, have not hitherto, in most cases, been attended with success; many must be considered as failures, some remain doubtful, while a third class, to which we advert with far greater satisfaction, must be considered in the light of promising adventures, which only require time and capital to bring them to maturity, when large and profitable returns may be expected.

The accurate discrimination of these various classes, and prompt effectual measures founded on such discrimination, we have repeatedly advocated—*time*, however, will effect the object we have had in view (though, unfortunately, at great and needless expense), and in the course of another year or two, although many mines now working will doubtless be abandoned, we hope to find others crowned with successful results, and fully rewarding the patience and perseverance which are essential to mining enterprise.

In concluding our retrospect of the past year, there is another circumstance, to which we advert with pleasure—the increased attention paid to the mines of Ireland, and the great success which has, in several cases resulted from it. To the capabilities and mineral resources of that interesting country we have, on many occasions devoted considerable space in our columns, and we notice with satisfaction the realization of our anticipations. To this wide, and hitherto but little tried mineral field, we again direct the attention of capitalists, as likely to repay with interest all that is judiciously expended upon it.

We have again this week to refer to the proceedings at Meetings of Companies which have been lately held, confirming as they do, the views we have ever entertained of the necessity of caution being observed, and the propriety of the appointment of Committees, to inquire and report upon the affairs of the Company; while the experience of each day convinces us the Scrip system requires to be modified and that to carry on undertakings in mines with Companies so composed, several alterations in the constitution of each Company are indispensable, and which the sooner effected, the more important do we consider it as affects the interests of Adventurers in Mines generally.

In our last we referred to the "Old Moor Tin Mining Company," intending to have entered more fully into the proceedings on the present occasion. It was not that the Mine or the Company was of that first importance which should exclude other matter, but it was because we felt it important to direct attention to the proceedings of one company as a sample of what may be expected in other undertakings of a like nature. Having then referred to the "New Crinnis Mining Company," we may here observe if our information be correct, that the worthy Aldermen of the City of London (Wood and Kelly) "backed out" with no great loss on the occasion. It will be in the recollection of our readers that the price demanded for the Mine was £5000—a property which, as we are informed, was acquired by them (or sold to themselves) for £1350, including some 7 or £800 worth more materials than at the period (when, having failed in their project of forming a Company,) they sold the property for £1500 to Messrs. Browne and Rodda, the projectors and agents of several Companies which are under the management of the same parties—and included in which sum was the engine proposed by Mr. Browne, to be purchased by the Directors of the Old Moor Mining Company, of which he (Mr. B.) was agent, for £1000, although valued, as we have been given to understand, by that gentleman or Mr. RODDA, his partner in the transaction, at only one-third that sum.

We have here, then, a strong illustration of the beauties of a system patronised and protected by Messrs. Aldermen WOOD and KELLY. A property is purchased by them and friends for 1350*l.* or thereabouts. An attempt is made to form a company, to whom the property is to be sold for 5000*l.*. The scheme fails, the mine and materials (less, as we are informed, some 7 or 800*l.* worth which had been otherwise disposed of) are subsequently sold to their agents for 1,500*l.*, and they, through another party, endeavour to foist the engine on one of the companies with which they are engaged, and on whose advice it is to be supposed the Directors act. In this case, however, the Directors enquired for themselves—they found the engine to be, not only excessively dear, but not calculated for the objects to which it was their intention to apply it; and hence, as we have already observed, is, we believe, to be attributed the opposition to the further progress of the Company. The Scrip Certificates providing that a majority shall have the power to dissolve the Company, a gentleman is nominated by the *discontented* Cornish Shareholders to represent them, who, holding, we will suppose, 501 Shares, says "We have the power to dissolve the Company, and do it we will, unless you allow us to be the paid Directors—unless you allow us to order *(or supply)* the materials." If this were assented to, no longer would any objection we take it, exist; and in what case would the London Adventurers be placed? Why, the very next moment after effecting the object in view—that of having a Cornish, or local direction, instead of one in London, they might dispose of their interest, merely retaining the shares necessary for their qualification; and thus the majority is applied for the moment to a purpose which, we contend, the Cornish Shareholders are not justified in doing. Were they not aware upon becoming Shareholders, that the management was confided to London Adventurers? Did they not, in taking up their interest tacitly imply, that such management met their wishes? This admitted, is it then, we would ask, fair to dictate terms, as appears to have been done in this instance, without one single charge against the Directors—without any reason being assigned for withdrawing the management from their care and control, while the parties are ready to acknowledge the value of the property possessed by the Company, and which they are now as we understand, prepared to purchase and work on their own (the Cornish) system. It is well to talk of the advantages or disadvantages of any particular system where an object is to be attained, but we have already, we believe, shown that both the Cost-book and the Scrip system have their defects, a subject which we shall not now enter into, otherwise than to observe, that a modification is indispensably necessary, whereby parties may be better secured than they now are, and that property of which they believe themselves to be possessed, may not, either by the mere caprice, or from interested motives of Adventurers, or by the dictum of a Board of Directors, be sacrificed at their will and pleasure in the manner to which we have now occasion to invite attention.

It will be in the recollection of our readers, that some weeks since we noticed the forfeiture of some 800 or 900 shares in the "South Polgooth Company," the whole number of which consisted of 5000, although only about 4000 were issued. These shares were subsequently sold as we heard by auction for about one shilling per share. Since then a further call of ten shillings per share has been made, and a correspondent directs our attention to the circumstance of 1090 shares in addition having been declared "irrevocably forfeited," thus by this second blow annihilating one half of the shares of the Company. We have here another illustration that the system works not well; the whole of the shares are not issued, on which a question arises, (as we think very properly) whether a Shareholder having subscribed for 100 shares, or one-fiftieth part of the mine, and thereby liable to the cost in like proportion, is to be considered responsible for the payment of one-fortieth share, instead of one-fiftieth, which the certificate delares him to be alone possessed of, and in case of the non-payment of such additional claim made on him by the Directors, can his Shares be forfeited? We know that a protest to the sale was put in, and that the Shares were sold in the instance to which we refer, subject to such protest, and such course will, we presume, be again pursued. But we would earnestly recommend to Directors and to Shareholders to meet, to enter into the necessary explanations, and to fully understand each other on any question at issue. If the Directors be honest and competent men, let them be ably supported by the prompt payment of the calls made, and which is necessary for the protection of the interests of the Shareholders at large. If that they be incompetent—if that any reason can be assigned why a change should take place, we cannot doubt for a moment but that sufficient good sense and feeling exists on both sides to effect such change, in a manner which shall not only be mutually satisfactory, but advantageous.

We think public meetings for the discussion of subjects when feelings are excited, or strong prejudices exist, at all times injurious to the concern, because, we are satisfied, there are other courses which may be pursued of a more agreeable nature, whereby the object can be achieved; and this, we would recommend, to the Directors and Shareholders in the "South Polgooth Mining Company."

The proceedings at the meeting of the "Wheal Brothers Mining Company," affords, unfortunately, another striking illustration of the remarks we have felt it our duty to make from time to time on the formation of Scrip Companies, and the excitement which has pervaded the public mind. The Shares of this Company, if we mistake not, were at one time quoted at 40*l.* per Share; or attaching to the whole mine a value of 200,000*l.*, and this was in some degree justified by the reports weekly made, and the dividends declared monthly as arising from the profits of the mine, and which were, for six months continuous, at the rate of 18 per cent. on the nominal capital of 100,000*l.*, and, consequently, a payment of 9000*l.* in that shape to the Adventurers. True it is, as was observed by a Shareholder present, that it was pleasant to the Adventurers to receive dividends, but what feeling of pleasure is excited in those who, misled by the representations made, were induced to become purchasers of Shares at excessive prices, compared with the value of the mine as since partially proved. The continued weekly reports of the successful progress and prospects of the mine, will not allow of reference, if that the future management is to be judged of by the past. The very circumstance of the ores, in April last, being valued by Mr. MALACHY at 4000*l.* and upwards, and at which sum he offered and agreed to take them (although, as we thought and expressed at the time, it was foolish and uncalled for on his part), but which were then represented as being of less value than 1000*l.*, is a case in point. What has the result proved—what were the consequences of the assertion?

The result is, that they realised not one-eighth of that sum, for when sold some two months afterwards, and when the stock of ores might naturally be supposed to have been augmented, they obtained only 600*l.*, while the causes assigned in the interim for their not being sold were of a nature calculated to create doubts in the minds of several Shareholders. The consequences attendant this assertion, so frequently made by Mr. MALACHY, was, that those who placed reliance in his word, and confidence in his practical knowledge and experience of silver ores, were induced to retain the interest they held in the Mine, and in some cases to encrease it—while, in other instances, shares were purchased with the conviction that, ores represented to be worth 4000*l.* by the Agent of the Mine, must be worth, at least the greater proportion, if not the whole of that sum.

Eight months have now elapsed since that meeting took place, and it is found that during that period, 1200*l.* to 1300*l.* has been expended and no returns made; it is in some degree explained as will be seen by reference to the report of the meeting, but we believe it is to be ascribed more to the management of parties who thought their Agent could not be employed in too many Mines, and hence the partial neglect of some one or other.

The proprietors have determined to raise a sum of money to enable the mine to be efficiently worked. In this, we think, they have done wisely, assuming as we do, that the mine is likely to be productive. A Committee has also been appointed to examine the accounts; this, we think, but of little moment compared with the powers which might, and as we think, ought to have been confided to the Committee—that of enquiry into the past management, and of reporting on the future: these, we think, were fitting objects for their consideration, and would have been satisfactory to the public, as leading to a full, and as we trust, a satisfactory enquiry and report on the representations made, and the probable chances of success. That a London Committee may not be competent to enter into the details of a mine, we perfectly coincide with the Shareholder who addressed the meeting on this subject, but we must confess, we think much more is to be done by a Committee than by a public meeting of Proprietors, where are assembled persons, who, in too many instances, are either the mere nominees of others, or possess no interest whatever in the undertaking. Without a registry this evil can never be counteracted, nor indeed, without a change in this company, and others similarly constituted, is it to be expected that a perfect and uninterrupted confidence can exist between the Directors and Shareholders.

We regret to have occasion thus to express our opinions, but experience has too fully proved that a change must take place—what that change may be, we are not prepared, nor indeed, are we

called upon, to say. The several adventures require probably a different system of management, but with the instances before us, we are the more confirmed in our opinion, that the modification of the system must necessarily take place to be beneficial to the several undertakings, as well as to the mining interests generally.

The only other Company to which we shall on the present occasion refer, is that of the "Wheal Sisters Company," a meeting of the Proprietors of which was held during the present week.

If we are to draw deductions from the report of Captains RICH. VIVIAN, and W. GREGOR, we should say it was madness for any Shareholder further to embark capital in working the Mine; but if we consider the terms in which that report is couched, we shall there find that conclusions are arrived at, as we should say, too hastily. It is observed Silver Mines are never found to be profitable to the adventurer, and that Silver Ores appear or are solely to be found at the surface—but what evidence we would ask is there to bear out those conclusions. If we look to the Silver Mines of Mexico, such certainly is not the case, as the vast outlay in getting at the bottoms of the Valenciana and other Mines, afford ample evidence. If that we are to draw our conclusions from mines in England, we must observe that those now under consideration are the only ones of which we are aware the ores resemble those of Mexico; and so perfect is the resemblance, that the difference cannot in many instances be distinguished. We wish the Shareholders not to be too hasty in their resolves; and the same counsel will equally apply to those who may be deputed to inspect mines, with the nature of the ores of which they are not perfectly familiar. Silver Mines, it must be remembered, are hitherto unproved in this country, either in extent or depth, and therefore rashly to determine that a mine is not worth working because there is not a bunch of ore in sight, is to neglect that caution for which both Captains VIVIAN and GREGOR stand so eminent.

We have been informed, that in the proceedings of the "West Cork Mining Company" now pending in the Court of Chancery, the defendants have applied to dissolve the injunction, granted by the VICE-CHANCELLOR, on the 23rd inst., restraining them (Messrs. PIKE, WARNEFORD, and PRICKETT) from acting as directors, the advertisement announcing which is inserted in our present number. Counsel were heard on both sides, when the VICE-CHANCELLOR confirmed the decision previously made, so that the injunction remains as when first granted. Mr. F. G. MOON, one of the Directors, but against whom no charge has been made of culpability, as involved in the transaction, has disqualified. This we did not expect, as we think he was morally bound to remain in office to protect the interests of those friends who have been induced to embark their capital at his representations, and upon his advice. On the other hand, the Rev. W. W. ELLIS retains his office with the view, as we have reason to believe, of watching the movements of other parties, a course of conduct which is only that which we should expect from one professing honourable principles, although it may subject him to personal inconvenience, which must, however, be a matter of secondary consideration in the present instance.

Another secession from office is worthy of note, as it confirms the view we last week tookof Mr. J. C. FOURDRINIER'S conduct, in being anxious to withdraw from a connexion which, as we then observed, could not add respectability; the retirement to which we refer, is that of Mr. FOURDRINIER, Sen., from the office of secretary. This line of conduct is praiseworthy, and tends to confirm all that we have yet said with regard to the proceedings of the company. We did not purpose thus again intruding the "West Cork Mining Company" on the notice of our readers, but with facts of this nature before us, with *two* actions pending against us for libel, we cannot help at the close of the year, recording these circumstances, while it may be equally satisfactory to the Shareholders to learn that Mr. JONATHAN CLARK (one of the Proprietors, if we mistake not, of PIKE'S *Gazette*), has also retired from his office of one of the *Auditors* (!) of the Company. These retirements tell well.

THE FUNDS.

CITY, SATURDAY MORNING.

The Funds have during the week had a tendency to advance, as will be observed by the daily quotations, the last price being 89¼, or an advance of ⅛ per cent. on the lowest quoted. The state of the Money Market is decidedly improving. Exchequer Bills still command a high premium, having been done at 23 to 25 pm. Consols for February were yesterday quoted at 89⅜ ⅜.

The transactions in the Foreign Exchanges yesterday were again rather limited; the rates of exchange are, if anything, a shade lower than on the last post-day.

The intelligence of the renewed attempt to assassinate the King of the French has had no effect upon the British Funds; and the Consol Market has again exhibited a further degree of firmness, the closing price for the opening being 89⅛. The Three-and-a-Half per Cent. Reduced Annuities are 96⅛ ⅜, and the New Three-and-a-Half per Cents. 97¾ to 98 for the opening.

This has been settling-day in the Foreign House, and the account, which has been of a very trivial moment, passed over well. The transactions in the Foreign Funds may have been rather more numerous to-day, but the Market generally has closed heavily. Spanish Bonds opened at 19 ¼, and closed at 18⅞ to 19; Dividend Debentures, 36; Deferred Bonds, 7⅛. Portuguese New have closed at the reduced price of 4⅜ for the Account, and the Three per Cent. ditto, 28¼. The business in the Transatlantic Bonds has been limited to Brazilian, which closed at 84, and to Colombian at 23⅛ ⅜. Russian Bonds, 108½; Dutch Stock, 54⅞ ⅛; and the Fives, 101⅞ ¼.

In the Share Market the business has been more limited than for the past day or two, although more firmness has been displayed, and little doubt exists but that there will be a re-action as confidence becomes restored.

LATEST INTELLIGENCE.

LONDON, DEC. 30.—Copper remains steady. Tin, foreign, has been in active demand, but the English is called 5*l.* per ton lower again. Lead is decidedly firmer, and large parcels have changed hand at better prices. Iron is firm. Spelter very heavy. In other metals no alteration.

EASTERN COUNTIES RAILWAY.—An injunction was obtained on the 23d of December against this company, before the Lord Chancellor, to restrain their entering on Lord Petre's lands, until after they had paid his lordship 120,000*l.*, as previously agreed on. Permission was at the same time granted to have a motion heard for dissolving it before the Vice-Chancellor.—*Railway Magazine.*

LONDON AND GREENWICH RAILWAY.—We understand that since the opening of this railway, the average returns have increased to 85*l.* per day.

MINING CORRESPONDENCE.

ENGLISH MINES.

NORTH CORNWALL MINING ASSOCIATION.

Dec. 24.—*Wheal Hope.*—The appearances of this mine are very similar to what we reported to you last week; we have not broken any lode since, therefore cannot speak of any alteration.

Wheal Thomas.—In the east end, at the twenty-six fathom level, we have a good lode, and, from its appearance, we calculate on raising an increased quantity of lead from this end. The lode in the twenty-six fathom level west is improved, yielding very good stones of lead. The pitch in the back of the twenty-six fathom level, set for a farthing in the pound, is looking very well. We have not yet cut the lode in the seventeen fathom level cross-cut, end yielding an increased quantity of water, and from the present indications we consider we cannot be far from the lode. From the present appearance of this mine it is but fair to state that she is looking much better; and as soon as we are down to the seventy-five fathom level in Wheal Hope (which we consider will be completed in four weeks more), an increased quantity of lead may be very fairly expected. JAMES STEPHENS, Sen.

ROYAL POLBEROU CONSOLS.

Dec. 21.—Our number of men now employed underground are 142 tributers and 58 tutworkmen. The tributers throughout the mine are working with spirit, and earning generally fair wages. Our principal object at present is to get levels under the course of tin gone down in the bottom of the thirty west of Alder's as fast as possible; but, rather unfortunately, we find Alder's shaft not sufficiently large to contain pitwork and the working of the machine Whim Kibble, therefore we are obliged to cut down the end of it; this of course has, and will, impede our progress. Nevertheless, I hope to see the horizontal rods, bobs, &c. complete, and at work by the end of January next, and if Alder's shaft is so deep as reported by the old miners, and the course of tin holds as good as it now is in the bottom of the thirty fathom level, we shall shortly be in the pleasing situation of giving to the adventurers handsome profits monthly. JOHN BENNETTS.

WEST WHEAL BROTHERS MINING COMPANY.

Dec. 22.—There has been little or no alteration in the silver lode in the thirty fathom level or shaft since last week. The branch in the east end has been poor for the last three fathoms. The back still produces stones of grey oxide of silver in the fluccan, very like the part on which the tributers are working; therefore it is probable that the lode from the shaft to the last discovery, about fourteen fathoms east of it, will pay for excavating from the back of the thirty to the bottom of the twenty. When the tributers' time expires, which will be in a fortnight, I shall make a division in the ground, and try to let two pitches. I believe that the branch cut in the shaft, as described last week, is the south copper lode; if so, all cost on that account shall be stopped, as in extending the forty on the course of the silver lode, it is possible to prove it without additional expense. We are very near to the north copper lode, as the water certainly goes back into it, which denotes its being a large hollow lode. JAMES CARPENTER.

CORNWALL UNITED MINING ASSOCIATION.

Truro.—Dec. 24.—The report of the state and prospects of the mines belonging to this association, has been delayed till the present time, that I might be able to inform you that the engines on the mines are set at work. *East Wheal Providence.*—The water-wheel was connected with the pit-work in the shaft about a fortnight ago, since which time the engine-shaft has been sunk about four fathoms, and it is expected that it will be sunk to the depth of ten fathoms in about a fortnight, when a level will be driven to cut the copper lode discovered in the adit level. In sinking the shaft a rich branch of tin has been gone through, and the ground is of a very favourable description. In a sink which has been made on the tin lode at the adit level some very good tin stuff has been broken. It is intended to attach a stamping-mill to the water-wheel, which is of sufficient power to drive the mine as well as to stamp the tin itself. *Silver Hill.*—The erection of the engine-house, and the putting up of the engine, and fixing the work generally, have been much delayed by the almost incessant rain. It is now completed and we have sufficient power to enable us to proceed with the workings of the mine. We expect to be able to commence driving on the lode at the ten fathom level on Monday week next. The appearance of the lode at this depth had very considerably improved previously to the water overpowering the horse-engines. We look very anxiously to the extending the ten fathom level westward, as there is a fine gozzan at the surface, about twenty five fathoms further west than the level has been yet driven. In the ten fathom level the lode is composed of quartz, blende, and yellow copper ore, and nearly two feet in width. JOHN BROWN.

BRITISH TIN MINING COMPANY.

Great Wheal Venture, Dec. 26.—The middle lode in Campbell's winze is much the same in size, but improved in quality. Fagan's lode, in east end twelve fathom level, is from two to three feet wide, and tinny. The caunter lode is about two feet wide, yielding tolerably good work. Fagan's lode, in west end, at present is small and poor. It appears we are just now arrived at the caunter, in the twenty-two fathom level east end—more about this lode in my next. I believe we are through Glow-hill and Fagan's lode, in the twenty-two west end, the lode in this place is from ten to twelve feet wide, and tinny. J. BRAY.

ROCHE ROCK MINING COMPANY.

Dec. 26.—The north lode at the back of the sixty fathom level continues about eight feet wide, and, as usual, productive for tin, but somewhat hard and disordered from cross-courses intersecting the lode west of the engine-shaft. At the back of the sixty fathom level this lode, in the same direction, assumes a more favourable character than reported for some weeks past; the north lode at this level is about three feet wide, and yields work of a satisfactory description. The tribute pitches at the back of the thirty and forty fathom levels are as favourable as last reported. S. ROBINS.

REDRUTH UNITED MINING COMPANY.

Dec. 26.—In presenting you this day's report, I have but little to say as to the appearance of the mines, as I do not see any alteration of consequence since my last. We are continuing to raise tin stuff from the back of the twenty-two fathom level east of Goodinge's shaft, from the twenty fathom level west of the engine-shaft; and at Buller's, back of the thirty-two fathom level, we are raising both tin and copper ores, although our copper ore did not fetch so much money this sale as the last, yet we shall (against we have returned the two months produce for tin) exceed in value either of the preceding two months, though we have a fewer number of hands on tribute than we had a few months since. We intend to sample tin stuff next week, which will be about 2000 sacks, if the severe weather do not prevent us. We sold last Saturday, at Trethellan Smelting-house, black tin to the amount of 89*l.* 19s. 7d. R. GOLDSWORTHY.

ST. HILARY MINING COMPANY.

Dec. 24.—I have the satisfaction of apprising you that the lode lately cut in the fifty fathom level, under all the old workings, and which we are driving on at that level, east and west of the cross-cut from our new engine-shaft in Wheal Leeds, increases in size, as we have extended the level in both those directions. *Forty Fathom Level East.*—There is no marked improvement in this end, the lode still continues kindly. *Forty Fathom Level West.*—We shall be prepared to sink the new western whim-shaft, under this level, to the fifty, on the course of the lode, in a week or ten days; it is necessary first to cut a plat and square the shaft down. C. N. BEATER.

ALBION MINING COMPANY.

Dec. 27.—In presenting you this day's report, I would beg to observe the ground in the seventy fathom level south, towards the caunter lode, assumes a more favourable appearance at this time than for some fathoms driving. The sixty fathom level east, on the caunter, produces one ton and a half per fathom. The winze under the forty-seven about one ton per fathom. The forty-seven, on the caunter, about half a ton per fathom. The forty fathom level east, on the caunter, produces one ton per fathom. The thirty east from Sampson's rise produces a little ore. Nicholson's shaft is sunk under the adit twenty-six fathoms three feet, and the ground still favourable for sinking. JOHN MIDDLETON.

POLBREEN MINING COMPANY.

Dec. 24.—I have just examined the underground department (throughout) in this mine, and have compared the present prospects with what I wrote you on the 17th inst. I find the whole to be precisely in accordance with that report, and to which I must this week beg to refer you. RICHARD ROWE.

SOUTH WHEAL LEISURE MINING COMPANY.

Dec. 24.—The ground in the engine-shaft is much the same as noticed last week, with the exception of its being wetter, and we expect it will require nearly the whole of next month to complete the shaft to the twenty-five fathom level. At the fifteen fathom level west of the engine-shaft we have a large lode, about three feet wide, just of the same nature as it has been for some fathoms, being chiefly composed of spar, with a little mundic and ore. At the same level driving east the lode is about two feet wide, containing black jack, silver lead, mundic, copper ore, prian, and spar, situated in a channel of soft killas ground; the appearances altogether in this level I consider to be of a favourable nature. RICHARD ROWE.

HOLMBUSH MINING COMPANY.

Dec. 26.—In the eighty fathom level west the lode is two feet wide, composed chiefly of mundic and stones of copper ore. The sixty-two fathom level west is two feet and a half wide, but not so productive as last reported. The stopes below the thirty five fathom level are much the same as last reported. All other parts of the mines are looking very promising. We have 120 tons of ore ready, which we hope to get to Cotehele quarry this week for the purpose of sampling. JAMES LANE.

REDMOOR CONSOLIDATED MINING COMPANY.

Dec. 26.—In driving the forty fathom level north of Johnson's shaft, we have intersected some small branches crossing the level, which have very much disordered the lead lode, and it is not so good as stated in my last report; it produces saving work about seven inches wide. The forty fathom level extending north from this shaft, to cut Johnson's lode, is about nine fathoms and a half from shaft, and we expect shortly to cut the lode; the ground lately is much improved in appearance. The thirty fathom level south, on the lead lode, is small and poor; north on the same lode is small but promising. The weather is now so severe, that the dressing of the ores is entirely suspended, and I fear that we shall not be able to sample a parcel on Saturday next as I intended, but hope that it will moderate to enable us to do so in the following week. WILLIAM PETHERICK.

EAST WHEAL STRAWBERRY MINING COMPANY.

Dec. 26.—The lode in the twenty-four, sixteen, and nine fathom levels, at Orchard, is much the same as stated in my last report. In the cross-cut, south of Grant's shaft, at the twenty-five fathom level, a lode has been discovered, which is probably Trewithen south lode. About fourteen kibbles of work have been sampled, containing nearly six cwt. of black tin per 100 cwt.; twelve gallon sacks. I have directed this level to be extended on it westward, with all speed, and hope soon to give further and satisfactory particulars. We propose to sample on Friday next about three, or three and a half tons of tin; and it was our intention to sample on Monday, the 2nd January, about forty tons of copper ores. The quantity, and, indeed, the time of sampling, will much depend on the state of the weather, which is at present very severe. WILLIAM PETHERICK.

PERRAN CONSOLIDATED MINING COMPANY.

Dec. 26.—At Goonhavern old mine we have drained the water to the ten fathom level, and have communicated a winze from adit to that place, where we have employed six tributers (at our last setting, 23rd inst) to raise lead at 50s. per ton, and a second party, four men, at 70s. per ton. The prospects here, of course, may be considered favourable. We find the lode in the western end at this level to be large and promising, and have set the same to drive by six men. In the east end the lode is small, and I do not think it advisable to drive in that direction at present. About the latter part of this week we hope to inspect the twenty fathom level; we consider about that time the water will be drained, when, no doubt, we shall be enabled to state more important information. The engine-shaft is set to sink below the ten fathom level, at 10*l.* per fathom; in the mean time a cross-cut to drive at that level. At Wheal Hope we have nothing new; the shaft, however, will not take long to sink to the twenty-eight fathom level. R. ROWE.

NORTH CONSOLS MINING COMPANY.

Dec. 26.—Our water has been about the twenty fathom level. The past week, our sumpmen have been engaged taking up a case of water from Letcher's shaft, and brought it through the deep adit. The ground in the sixteen fathom cross-cut, north, is just as stated in my last report. Still driving ten cross-cut north. Driving the twenty-four east from Barkles; the lode is large and course. Driving the twenty east from William's; the lode does not appear to be improved for the last week. We have scarcely driven any thing in the new adit, east on the contra, last week, in consequence of bad air. In driving the new adit south, we have discovered a lode about one foot wide, composed of spar, iron, gozzan, mundic, and particles of yellow ore; the lode underlays north, and will intersect the contra, if they both continue their underlays, before they get to the sixteen fathom level. I think it a very favourable appearance, as there is no doubt that, when they form æconjunction, it will make a bunch of ore. Our tributers are working as usual. We have about forty tons of ores dressed at surface, and at this time completely locked up, in consequence of very severe frost, and there will be no dressing to speak of until this frost is gone. We shall sample all we can to-morrow week. The frosty weather here is very favourable for us, as our water will abate considerably. THOMAS TIPPETT.

TREVORGUS MINES.

Dec. 22.—The water has stopped our sinking the engine-shaft, until the engine goes to work. The lode is from four to five feet big, improving in depth, and now producing good lead ore, about two tons and a half to the fathom, a vast quantity of jack (zinc ore) of superior quality, and some good stones of copper ore. The deep adit end, south of Hellyer's shaft, has a promising lode, about three feet wide, producing a great quantity of white iron, some mundic, and very strongly impregnated with copper ores. In the winze to the north the lode is very large, with white iron, very fine stones of lead, and some copper. On Saturday they got in the connexion-rods, and yesterday they placed the boiler. The engineers are working hard, and if the founders keep their promise with the pit-work, pumps, &c., we shall be at work in about a fortnight, or very soon after. G. ABBOTT.

WEST WHEAL JEWEL MINING ASSOCIATION.

Dec. 26.—Buckingham's shaft is cleared, cut down, and repaired ten fathom under the shallow adit level, where we have found the plat that was cut by the old men, and also the diagonal shaft on which we have raised and brought to the surface half a ton of good copper ore, but we have not been able to determine whether it is an arch of ground left to support the shaft, or whether the old men have worked the lode at this level. The south adit shaft is cleared and secured to the bottom of the shallow adit, we have also cleared out the plot which will be necessary for our future proceedings on the south lodes, here we should put three men to open on the lode west, and three more east, for at least a few fathoms, as it may turn out to be the Wheal Jewel great lode; the size of the lode is fifteen inches big, and although not explored in the former workings, it should be now as the cross-cut south was drawn long before the lode on Wheal Jewel was thought of. The winze west from Quarry shaft is much the same as last week, having still excellent specimens of tin. We have also cleared and repaired the middle adit, west from Roseby's shaft, as well as the cross-cut leading to the great gozzan lode, which cross-cut is about thirty-five fathoms, and here we find the lode about three feet wide, driven west five fathoms, and eastward about three fathoms, being forty fathoms from surface, and the lode all in whole. MATTHEW WILLIAMS.

TAMAR SILVER LEAD MINING COMPANY.

Dec. 26.—In twenty-seven fathom level south the lode is about two feet big, composed of lead, mundic, fluor spar, &c. The thirty-five fathom level is just as at the date of the last report, as is also the seventy-five fathom level. There is a promising lode in the eighty-five fathom level, a foot big, composed of lead, fluor, &c., and we intend to increase the number of hands driving this level, to get it under the orey ground in the seventy-five fathom level, from which considerable expectations are entertained. We have had troublesome ground in cutting down the shaft last week. We hope however to finish it, and to be prepared to drop below the ninety-five fathom level in a few days. THOMAS PETHERICK.

EAST CORNWALL MINING ASSOCIATION.

Dec. 26.—The branches continue in sinking the engine-shaft below the forty-five fathom level, much as reported last week. It appears that we have not been driving the forty-five fathom level east on the main lode, and we have commenced a cross-cut south at that level to intersect it; it appears from the dialling that the lode is still to the south. In the end west, at this level, we have a strong sparry lode, about three feet wide, having a leader of ten inches wide, composed of carbonate of iron, quartz, and mundic, and is altogether a promising lode for copper ores. At Flap-jack the lode in the ten fathom level east, and also the shaft in sinking below that level, is much the same as stated in my former report. W. PETHERICK.

FOREIGN MINES.

COLOMBIAN MINING ASSOCIATION.

[*Continued from No.* 69.]

Sept. 6.—*Mine Department.*—Mr. C. Degenhardt's monthly report you will find enclosed, by which you will see that it has been determined to suspend the works on the Caparrosal lode for the present. The San Juan shaft we intend to commence as soon as the mason-work for supporting the hill side contiguous to the site of the shaft is finished. The importance of prosecuting the shaft with a competent force needs no comment, it will, when completed, afford the means of our working at a deeper point the main Crusada lode, and of obtaining the advantages to be derived from breaking ores (probably to a great extent) with facility, neither will the cost of bringing the ores to the surface be materially increased, for when landed from the shaft they will be near to the mills and easily conveyed. The proposed shaft at the Alto del Burro will necessarily be attended with considerable expense, and will occupy many months in completing, yet from this shaft, in the course of time, the establishment will possess many advantages; it will give an opportunity of proving the lode, of ventilating the mine, and prove an easy and economical mode of conveying the timber required for the different stations below. Taking a general view of our mining operations on the Salto lode, in their present state, several variations of a favourable nature have presented themselves since my last report, and upon the whole, we have much better prospects of breaking a more adequate supply of ores for the mills, than we had a few weeks ago. The lode in the Hermenejildo end continues to improve. August accounts will be sent you by next post. The total cost, I am pleased to say, amounts to no more than 8793*l.* — WILLIAMSON.

Reduction Report for August.

The proceedings in the reduction department have produced for August eight ingots, which weigh together, 82 lbs. 8 oz. 9 dwts., and which contain by my assays, of fine gold, 53 lbs. 7 oz. 1 dwt.; and of fine silver, 27 lbs. 2 oz. 1 dwt. The loss per cent. in the whole treatment, appears at 51.98. Fine gold recovered per stamphead, amounts to 19 oz. 12 dwts.; ditto per ton of ores, treated to 12 dwts. 6 grs. The consumption of mercury amounts to 5510½ oz. troy=5.33 parts=378¼ lbs. avoirdupois. Concentration pro-

vious to amalgamation, as 1.64 to 100. The ore brought from the different stations of the mine to the mills during this month, weighed 1050 tons. Part of this quantity has been of very inferior quality, in consequence of being intermixed with a great deal of fine attle and hepatic pyrites. The massive pyrites from Escolastica, and part of that from San Antonio, were of a very close grain, which property generally indicates poorness. The average contents per ton of ores only, 1 oz. 5 dwts. 22 grs.; in consequence thereof, the loss appears so great. During last month about 180 tons of tails and refuse (100 of which were mensured), and treated by themselves: they were once concentrated by the new dressing-machine, and were reconcentrated by manual labour; but as it was impossible to get the whole amalgamated and washed, so that the result thereof could have come into the last month's produce, I defer making any other observation at present, than that the machine for dressing answers the purpose in every respect, and I hope to be able to give a detailed account of the whole experiment in my next report.

L. DEGENHARDT.

Sept. 13.—August Returns were despatched on the 6th inst. As the reduction officers' report furnishes in detail, the necessary particulars relating to the proceeds for August, I have no additional observations to make on the subject.

New Dressing Floors.—The tramroad for conveying the stamped mineral to the shoots, is in a forward state, and when finished, Williams, the dresser, will be able to commence operations in the new floors. We shall continue to concentrate the stamped mineral delivered from the mill, Hope and Renown, in the upper dressing floors, till such time as the whole machinery is completed, and a stage erected for the purpose of facilitating the carriage of the mineral from the mill Hope.

The Weather.—At present cloudy; the fall of rain from the 25th ult. to yesterday, two inches eighteen twentieths.

Stampheads at Work.—The average number of heads at work, from 25th ult. inclusive, to date 31, at thirty-four blows per minute.

—WILLIAMSON.

PAMPALONA ESTABLISHMENT.

La Baja, July 24.—Mines.—Enclosed I send you Captain Patten's report.

Wills' End and Backs.—You will observe that we have had a very handsome sampling from these places, viz. to the value of £12,600, broken in two months. The lode both in the end and backs continues very good. The ore you will perceive is also improving in quality; the last best ore sampled was worth 440 ozs. silver and 13½ ozs. gold per ton; the present, 517 ozs. silver, and 15½ ozs. gold per ton.

Doecy's Lode.—The lode in the end and sink is also improving, both in quantity and quality.

Copper Lode.—We expect to cut this lode next week. I suppose there will be no difficulty with the government in exporting this ore, should the lode prove as rich as is reported.

Angostura.—It will be seen by the captain's report, that the dependence here must be placed on the lode in the sink, and the new lode running nearly parallel to it, as the backs are getting very poor. We shall probably arrive at the sink in two months time. F. R. JONES.

La Baja, July 23.—Since I directed you my last report of March, I am happy to say, that the progress of the mines has been considerable, uninterrupted, and improving.

Angostura.—We have at length cut the main lode in the deep adit, after driving four fathoms five feet one inch. Since my last report, the lode here is about one foot wide, containing mundic and quartz; I do not expect it will yield much gold yet, as it is further east than where the lode was productive in the workings over head; we have got six fathoms to drive to reach the sink. I let two fathoms in this end on Monday last, to be driven west on the lode, at £36 per fathom.

Backs East of San Andre's Winze.—Six fathoms two feet nine inches have been stoped here; two fathoms five feet five inches at £18 per fathom, and three fathoms three feet four inches at £20 per fathom, lode from six to eight inches big, yielding about one ounce per ton. I let a piece of ground here to take down on Monday last for £8, when those backs may be discontinued, unless it should be thought proper to rise up a little further east to try the lode.

West of San Andre's Winze.—We drive here three fathoms two feet three inches in level reported in my last, when the lode became very small, we have been since rising in the back; the lode here is also very small. I have ordered the men to clear this place, that I may measure it, when most likely we shall stop all further proceedings here.

San Antonio—Nothing has been done here since my last.

Copper Lode, Cross-cut.—We have driven in all here fourteen fathoms eight inches, or eleven fathoms three feet since March. I am daily expecting to cut this lode; we shall have a great deal of water in the end, which, until lately, was quite dry.

Santa Carolina.—Wills' End, one fathom eleven inches has been driven here since my last, which, with two fathoms five inches in the back, and one fathom two feet ten inches in the side, yielded as follows by my assays:—

	t.	c.	q.	VALUE PER TON. Silver.	Gold.	TOTAL. Silver.	Gold.
Seconds	39	16	0	ozs. 25	ozs. ¼	ozs. 995	ozs. 24,87
Smalls	5	17	3	222	5	1307	29,4375
Second Bests	10	10	2	173	4	1820,825	42,1
Bests	9	3	0	517	15½	4730,55	141,825
	65	7	1			8853,375	238,2325

8853,375 ozs, Silver, at 1 8 per oz. ..... £ 8853 3
238,2325 ,, Gold 16 8 ,, ... 3811 5½
£ 12,665 0½

The cost of raising the above is £425. There is no charge made in this for wear and tear, spalling, picking, or European attendance; the miners provide themselves with candles, and barrow their own stuff. I have charged the powder three rials per lb., it being bought in the country at one rial per lb. more than it would have cost provided we had it direct from England.

Extra width has been paid for in the end for all above five feet wide, at half the proportionate price paid for driving, and in the backs half the proportionate price for all above four feet wide; the end was carried nine feet ten inches wide, or four feet ten inches extra width, and the backs were carried six feet nine inches wide, or two feet nine inches extra width. The reason why the end has been carried so wide is, that it contains two branches, which are some distance from each other, and the ground between them is composed of quartz and spots of blende, or the kind of ore known here as seconds. The reason why the back has not been carried so wide as the end is, that we began to rise farther back than where the two branches began to be productive, so that we have here carried no more ground than was necessary for rising in. The one fathom two feet eleven inches in the side was measured at the rate of six feet wide, as per agreement; it contained the north branch, which had been left standing, as the end was driven on the south branch.

In Wills' end, the north or main branch is about eight inches wide, and very solid, the south one nearly four inches wide, but not so solid as the north one; these branches do not seem to be coming together in going forward—but they are nearing as they go downwards. In the backs we still have "vugs," as we had in the end when we were driving under this part; in one place the blende branch was more than a foot wide, although, generally speaking, it is from eight to ten inches. The south one is not so large, varying from three to five inches wide. I expect we shall have enough ore broken for another sampling by the beginning of August.

The fathom of ground driven in Wills' end, and reported in my last, with a piece of the north branch that was taken down with it, produced, per assay, as reported in my last, £5968. We have now eight men in this end; I think they have driven six or seven feet, but I could not measure it, as the mark is covered by the ore broken in the backs, where we have four men rising: prices same as last bargaining.

Lode Davey's Floor.—There has been five fathoms, five feet, seven inches driven in this end. The lode here is a large bearing branch, varying from six inches wide, but not solid, and there has been about two fathoms, five feet sunk in the winze, at £25 per fathom, from which I have sampled 6 tons, 9 cwt. of ores, viz.: 6 tons, 9 cwt., containing per ton, silver 41 oz., gold 1½oz. total contents, silver 264,45 oz., gold 9,675 oz.; 264,45 oz. silver, at £1 per oz., £264 3½, 9,675 oz. gold, at £16 per oz., £154 6½, total, £419 1½.

Neither the smalls nor seconds have been included in this statement, as I am waiting to put in a tye, in order to dress them up. There are several tons of these on hand, besides what have been broken since the ore was weighed. We have gone through a slide in both places, since which the lode has become more solid, particularly in the sink.

Eighteen Fathom Level.—We have driven seven fathoms, four feet, eight inches since my last, the ground here is harder than heretofore, (I let two fathoms to-day, at £32 per fathom) and the air is bad. I am getting in the blowing machine as fast as possible, most of the materials are ready, and the aqueduct has been made and clayed as far as the floors, where it will also bring the water for dressing. When this is compiete we contemplate putting six men in this end.

Thirty Fathom Level.—We have here brought up the stope nearly to the fast or whole ground, but have been greatly retarded by the large stones we have had to remove; this place is now at a stand-still, as the ground is filling in, and I have not time to attend to it, neither is there any timber-man here.

— PATTEN.

La Baja, Aug. 7.—Returns.—Enclosed you have Mr. Lane's account of the silver just parted, and also invoice of three bars of silver, and one ingot of gold which I expect will go forward by the present post. This remittance does not exceed £1600, so that I am upwards of £400 short of my promise; of this there are about £100 is the alloy resulting from the copper amalgam, which has not been parted. My remains have not all been washed yet, so that I cannot assay them, but they must be worth at least 1 oz. silver per quintal, and 1 oz. per ton for gold. I attribute this partly to my cooling the ore as I wrote you in my last.

Mines.—These remain exactly the same as in the captain's report. We have not yet cut the copper lode.

Angostura Returning Works.—In three days' time I shall finish stamping 30 tons, which I have forced through quicksilver, when I hope I shall be able to report favourably upon it. R. F. JONES.

MR. COAD'S PATENT FOR CONSUMING SMOKE.

We have been induced to copy the following paragraphs from the columns of the *Liverpool Mercury* and *Gore's Liverpool Advertiser*, as treating on a subject which is of vast importance, whether considered with reference to the saving of fuel, or to the consuming of the smoke in engines, &c.; the latter, being in itself a great desideratum, more particularly in manufacturing towns, while it is a matter of the first consideration where the scene of operations is situated distant, from the coal districts.

"The smoke arising from a common fire is occasioned by the temperature not being sufficiently high at the point where it makes its appearance, to bring about the union of the inflammable particles, of which the smoke consists, with the oxygen of the air; and on this account a certain quantity of the fuel, and that a considerable one, escapes up the chimney into the atmosphere and is lost; while, at the same time, the atmosphere itself is vitiated, and the comfort of the population, in localities where large quantities of smoke are evolved, is materially impaired. To remedy these inconveniencies, all that is necessary is to afford the smoke just that amount of heat that is required for its combustion at the moment when it is about to be formed; and Mr. Coad effects this by throwing a stream of hot air into the flame at the bridge of the furnace. We have already described the manner in which this is done, and shall simply state that the air is made to pass through an aperture heated to a high degree by the waste heat of the chimney, so that no additional fuel is required for the purpose, while a considerable saving is effected in the quantity of coal used in the furnace.

"The apparatus used in the Institution consisted of a small furnace, communicating with one of the chimneys of the building, and the hot air was thrown into it in the usual way. When it was in full action there was not the slightest appearance of smoke outside, insomuch that it was impossible to tell under which chimney the fire was situated. The door of the furnace was then opened to allow the cold air from without to play over the fire, and immediately a quantity of black smoke escaped from the stack. The door was then closed so as to allow the hot air to act upon the fire, and the smoke ceased instantaneously. At a short distance above the furnace there was an aperture left by which the state of the interior of the chimney might be examined, and when the apparatus was in action, no vapour of any kind could be perceived through it; in fact, the combustion of the coal was perfect.

'When we visited the works where the other furnace is situated, there was a fire under the boiler, and the engine was at work; but there was no appearance of smoke at the top of the stack, which in this particular afforded a striking contrast to the chimneys even of the dwelling houses in the neighbourhood. The door of the furnace was opened, as in the preceding instance, to admit the cold air, and the fire became immediately smoky, while, at the same time, a quantity of smoke rose from the chimney. The door was then shut, and as soon as the stack had emptied itself of the smoke it had received while the door was open, there was no appearance of vapour of any kind. In order to try the efficacy of the apparatus still further, a large quantity of coal was thrown over the fire, and the door was closed; but as soon as the chimney had emptied itself, as in the foregoing experiment, the combustion was complete, and the smoke ceased."

"The efficacy of Mr. Coad's patent apparatus for consuming smoke and economising fuel, is becoming every day more apparent. Of the utility of such an invention there can be no doubt, as something that would effectually accomplish the object has long been anxiously asked for. The nuisance arising from the dispersion of smoke over the atmosphere is in itself a great evil, and when this is taken in combination with the great waste of fuel consequent thereupon, it will be felt that Mr. Coad has, by his construction of an apparatus which makes every particle of the fuel available, conferred a great benefit on the community."

In thus noticing Mr. Coad's useful, and we may add, important patent, our attention has been struck by its similarity to a process described in the last number of the *Mining Review*, in an article headed "Schauffelen's Patent Furnace Feeder," and which is illustrated by plates. The object of Mr. Coad does not appear to us to be so much the saving in the consumption of fuel, as that of consuming the smoke (a necessary saving we are ready to admit), but the principle of both gentlemen is evidently the same, the introduction of heated air into the engine stack, or chimney, and causing the air to be so heated by the smoke, which would otherwise be not only wasted, but would create that nuisance, of which complaints are so frequently made in the locality of manufactories and other works where steam-power is required. The following extract from the article referred to, will be read with additional interest, from the circumstance of the attention of an Englishman and a foreigner having been directed to the one object at the same time, but to whom the merit is due of having first discovered or applied the plan, we are not prepared to say. In the absence of the plates, in illustration, our extract is necessarily somewhat vague. At page 284 the writer observes:—

"The apparatus is on a small scale, and in its simplest form: a syphon-pipe of thin sheet iron being placed in the chimney; the ashpit and every aperture by which external air could find admission, being carefully closed, the feeding air is now drawn through the syphon by the force of the draught, and becomes heated in its passage both by the warmth of the chimney, and by absorbing the heat from the smoke, which is constantly circulating around it; the feeding-air is discharged into the ash-pit, whence ascending through the fire-bars it supports combustion. Whenever the chimney is sufficiently wide to contain them, a series of pipes, thus arranged, may be placed, conveying the feeding-air into a flue leading to the ashpit, but when this space is contracted, recourse is had to a separate pipe-chamber, built against any one side of the chimney, here the smoke instead of passing from the flue into the shaft, is conducted into the lower part of the pipe-chamber, when after circulating around, and imparting its heat to the pipes placed therein, it is discharged into the chimney, whence it finally escapes."

"The atmospheric air is admitted by the cold-air chamber, through the lower legs of the twelve syphon-pipes, and is discharged at the mouth of the parallel leg into the hot-air chamber, from whence it passes by the hot-air flue into the ashpit; the two chambers are divided laterally from each other by a wall or plate of iron, and the syphon-pipes pass through, and are imbedded air-tight in the horizontal plates which form the upper and lower portions of the hot-air chamber; various other methods are adopted according to the locality, the pipes being in some instances laid horizontally."

"The advantages of the hot-blast are now generally recognised in the saving of fuel effected thereby at high furnaces, but hitherto it has been applied to them alone, no means having been devised by which it could be brought into operation without mechanical power: now, however, by means of an apparatus of extreme simplicity, and at no other cost than that of erection, the temperature of the feeding air being raised by the waste heat of the chimney, its application is extended to every description of fire-place, to which the admission of atmospheric air is not indispensable for other purposes than those of combustion. A valuable auxiliary advantage is also obtained by the diminution of the quantity and density of the smoke produced, inasmuch as the feeding-air being heated is prepared for readier decomposition, and its oxygen combining more completely with the fuel, less carbonaceous matter is suffered to escape unconsumed, and the smoke is consequently whiter in colour, and ascends in a volume, and when applied to a boiler-fire the steam is generated more steadily, in consequence of the fire not being exposed to occasional blasts of cold air.

"An impression was entertained, in the first instance, that the draught would be diminished, the fire-bars and furnace injured, or the pipes themselves damaged by the action of the heat, but a sufficient experience has proved this to be unfounded; the fire burns well and has an abundant draught, no injury whatever has resulted to the fire-bars from the additional heat thus supplied, and the pipes are preserved by the current of cold air which is constantly passing through them."

Before taking leave of the subject, we may refer to a paragraph, also copied from a contemporary, which will be found in the present number, on the mode of constructing chimneys, which is well worthy of attention.

We shall on an early occasion return to the subject, and in the interim, shall feel obliged by the remarks of our correspondents on the merits of the discovery, and the advantages likely to be attendant on it.

RAILROAD ACROSS THE ISTHMUS OF PANAMA.—The company of shareholders, at the head of which is Mr. Beddle, a United States man, and M. Azuero, a Columbian, having lodged the necessary securities, and perfected their guarantees with the government of New Grenada, for the making of a railroad, as conceded to them by a decree of the 6th of June last, and rendering navigable a stream which goes the remainder of the way across the isthmus, which separates the Atlantic and Pacific Oceans, the great work was finally perfected on the 26th of August, and the works are to be commenced without delay.—*Columbian Paper.*

PATENTS RECENTLY GRANTED.

Alexander Stocker, of Bardesley Iron-works, and Henry Downing, of French Walls Iron-works, both of Birmingham, gentlemen, for improvements in manufacturing rivets, screw blanks, and other articles. Nov. 29; six months.

David Nunes Carvalho, of Fleet-street, London, bookseller, for certain improvements in propelling or moving vessels or other floating bodies on water, and carriages on land; which improvements are applicable to windmills and other purposes; being a communication from a foreigner residing abroad. Dec. 3; six months.

Robert Armstrong, of Stonehouse, Devon, doctor of medicine, for certain improvements in the water-pressure engine, rendering it more generally applicable for raising water and other substances, and as a motive-power. Dec. 3; six months.

Moses Poole, of Lincoln's Inn, Middlesex, gentleman, for machinery for a method of generating power applicable to various useful purposes; being a communication from a foreigner residing abroad. Dec. 3; six months.

Jacob Perkins, of Fleet-street, London, engineer, for certain improvements in steam-engines, furnaces, and boilers; parts of which improvements are applicable to other purposes. Dec. 3; six months.

George Sullivan, of Morley's Hotel, Charing-cross, Middlesex, gentleman, for improvements in machinery for measuring fluids; being a communication from a foreigner residing abroad. Dec. 3; six months.

Henry Booth, of Liverpool, Lancaster, Esq., for certain improvements in the construction and arrangement of railway tunnels, to be worked by locomotive-engines. Dec. 3; six months.

Henry Adcock, of Mount Pleasant, Liverpool, Lancaster, civil engineer, for certain improvements in the raising of water from mines and other deep places. Dec. 9; six months.

Lemuel Wellman Wright, of Manchester, Lancaster, engineer, for certain improvements in machinery or apparatus for bleaching or cleansing linens, cottons, or other fabrics; goods or other fibrous substances. Dec. 9; six months,

John Yates, of the parish of Saint Anne, Limehouse, Middlesex, for certain improvements in train-roads or railways, and in the wheels or other parts of carriages to be wheeled thereon. Dec. 9; six months.

John Melling, of Liverpool, Lancaster, engineer, for certain improvements in locomotive steam-engines, to be used upon railways or other roads; part or parts of which improvements are also applicable to stationary steam-engines, and to machinery in general. Dec. 15; six months.

Richard Thomas Beck, of the parish of Little Stonham, Suffolk, gentleman, for new and improved apparatus or mechanism for obtaining power and motion, to be used as a mechanical agent generally, which he intends to denominate "Rotæ Vivæ;" being a communication from a foreigner residing abroad. Dec. 15; six months.

William Sharpe, of the City of Glasgow, North Britain, merchant, for a certain improvement in the treatment of cotton-wool, in preparation for manufacturing the same into yarn and thread; being a communication from a foreigner residing abroad. Dec. 15; six months.

Robert Waller Swinburne, of South Shields, Durham, agent, for certain improvements in the manufacture of plate-glass. Dec. 15; six months.

Thomas Routledge and Elijah Galloway, of Water-lane, London, gentlemen, for certain improvements in cabriolets and omnibuses. Dec. 19; six months.

Thomas Elliott Harrison, of Whitburn, Durham, engineer, for certain improvements in locomotive-engines. Dec. 21; six months.

Andrew Smith, of Princes-street, parish of Saint Martin in the Fields, Westminster, engineer, for certain improvements in the construction of standing rigging and stays for ships and vessels, and in the method of fitting or using it, and in the construction of chains applicable to various purposes, and in machinery or apparatus for making or manufacturing such rigging and chains. Dec. 21; six months.

John Crighton, of Manchester, for a certain improvement or improvements in the construction of cylinders used in carding-engines, employed for carding cotton, wool, silk, and other fibrous materials. Dec. 21; six month.

James Potter, of Manchester, cotton-spinner, for certain improvements in spinning-machinery. Dec. 21; six months.

Stedman Gillett, of Guildford-street, gentleman, and John Chapman, of Paddington, mechanist, for certain improvements in that description of vehicles called cabs. Dec. 21; six months.

William Gossage, of Stoke Prior, Worcestershire, chemist, for certain improved apparatus for decomposing common salt, and for condensing and making use of the gaseous product of such decomposition, also certain improvements in the mode of the conducting these processes. Dec. 24; six months.

Joseph Whitworth, of Manchester, engineer, for certain improvements in machinery, tools, or apparatus, for turning, boring, planning, and cutting metals and other materials. Sealed Nov. 24.

Robert Copeland, of Courland, Wandsworth-road, Surrey, engineer, for combination of apparatus for gaining power. Dec. 5.

Thomas Henry Russell, of Handsworth, near Birmingham, tube-maker, for improvements in making or manufacturing welded iron tubes. Dec. 9.

Luke Hebert, of Paternoster-row, London, civil engineer, for certain improvements in mills or machines for grinding and sifting farinaceous and other substances, Dec. 9.

Joseph Hanson, Hinckley, Leicester, architect, for an improved vehicle for the conveyance of various kinds of loads upon common and other roads. Dec. 9.

James Elnathan Smith, of Liverpool, merchant, for an invention, communicated by a foreigner residing abroad, of certain improvements on railways, and of locomotive-carriages to work on such railways. Dec. 17.

Daniel Chambers, of Carey-street, Lincoln's Inn, water-closet-manufacturer, and Joseph Hall, plumber, of Margaret-street, Cavendish-square, for an invention of an improvement in pumps. Dec. 17.

CONTINUOUS BEARINGS.

[From the "Railway Magazine."]

Mr. Vignoles, in a report to the Midland Counties Railway Directors, proposes to have continuous bearings on timber, using cast or wrought iron rails, nailed or spiked down on it. A great improvement of Mr. Vignoles is to have the timber "half baulks Kyanized." Mr V. refers in the report, to eighteeen months' experience of continuous bearings on the Dublin and Kingstown Railway, in proof of their utility. No man, we think, can for a moment question this, the advantages are too apparent. The following is Mr. Vignoles's estimate of the costs and advantages, which, we think, will prove at the present moment peculiarly interesting.

The following is a comparative Abstract of the total Cost per Mile of a Railway according to the several preceding stated Methods:—

	Per Mile of Double Tracking
Ultimate cost under the present system of a railway, laid on stone blocks, with 62lbs. wrought iron rails, after replacing one-third assumed to have been temporarily laid on larch sleepers in the first instance	£5460
First cost of a railway wholly laid on stone blocks, with similar rails	5450
First cost of a railway laid two-thirds on stone blocks and one-third on larch sleepers, with similar rails	5130
First cost of a railway wholly laid on larch sleepers, with similar rails	4660
First cost under the proposed system of a railway laid on longitudinal baulks of Memel timber, with 48lbs. wrought iron rails	3870
Ditto ditto with 45lbs. wrought iron rails	3780
Ditto ditto with 42lbs. wrought iron rails	3630
Ditto ditto wish 48lbs. cast iron rails	3480

It will thus be manifest that there is an economy varying from 890*l.* to 2200*l.* per mile, and that the most disadvantageous comparason of the proposed with the present system, exhibits a saving in its favour equal to once wholly removing the longitudinal timbers, while taking the 42lbs. wrought iron rail, which if wrought iron should be preferred, I recommend as quite sufficient, and comparing it with first cost of a railway wholly laid on stone blocks, there is an actual saving of 1800*l.* per mile, or comparing it with a railway laid two-thirds on stone and one-third on larch sleepers, there is a positive saving of upwards of 1500*l.* per mile in the first instance, and an ultimate saving of full 2000*l.* per mile.

THE GENERAL STEAM NAVIGATION COMPANY.—The new ship *Caledonia*, belonging to this company, arrived at three o'clock on Tuesday, with the Hamburgh mail of last Saturday, after a most tempestuous passage. On Monday, near the entrance of the Thames, the sea was terrific; and about a mile distance from the *Caledonia*, a three-masted ship was thrown by a heavy sea on her beam-ends, and while in that state a following sea struck her, and sent her, with all her hands, to the bottom. The *Caledonia* received some injury in her paddle-boxes and works on deck, but, happily, no further mischief was done. Captain Whittingham, of the *Caledonia*, a very experienced seaman, speaks of the weather as the most awfully tremendous he ever witnessed.

NEW JOINT-STOCK COMPANY.—Amongst the numerous speculations of the day, we have heard of a Joint-Stock Company, with a capital of 75,000 fr., for promoting and improving the different races of sporting dogs.—*French Paper.*

EXTRACTS FROM FOREIGN SCIENTIFIC WORKS.

No. III.

ON THE GEOGRAPHICAL DISTRIBUTION AND GEOLOGICAL CONDITIONS OF ARTESIAN WELLS.

The subject of Artesian Wells is one of considerable importance, and has accordingly received great attention from geologists, whose researches have thrown much light on the nature of this phenomenon, and have further determined, with considerable precision, the geological conditions under which Artesian wells actually exist, and in accordance with which, therefore, successful trials may be made to obtain supplies of water by this process.

In our notice of Dr. Buckland's Bridgewater Treatise, we extracted some passages relative to Artesian Wells, and we now follow up the subject, by an excellent view of the geological circumstances which appear to regulate the distribution of these natural fountains. The extract is from a foreign work to which we have already been indebted, the "Traité de Geognose," and we have never seen the subject so fully and ably treated in any other publication. It appears indeed to have received more attention on the continent than in this country, although the geological structure of many parts of Great Britain is well suited to the process of boring, and we have no doubt, that copious and permanent fountains might be obtained by this operation, in many places where they would be of much utility. In the following summary of facts, Artesian wells in tertiary districts are first treated of as most numerous, those situated in the older and secondary strata are then considered.

ON ARTESIAN WELLS IN TERTIARY FORMATIONS.

The tertiary formations are best adapted for the purpose of forming Artesian wells, which arises from two equally important geognostic circumstances; first, the frequent occurrence of beds of permeable sands in the different terms of the tertiary series, both in the upper and lower fresh water formations—in the marine limestone of Paris, and its equivalent, the clay soil of London: a circumstance peculiarly favourable to the filtration of the atmospheric waters, and the formation of subterranean aqueous reservoirs; second, the disposition of these fresh water formations in the form of basins. Few as the number of attempts has been to procure subterranean supplies of water, there are, notwithstanding, Artesian wells in almost all the important tertiary basins; although, indeed, the number in most of them is small. We shall notice in order the tertiary basins of Paris, l'Allier, Provence, Hérault, England, the Appenines, Switzerland, Germany, Russia, the United States, and the African shore of the Mediterranean.

The Plain of St. Denis.—To the north of Paris, between the Marne, the Seine, and the Oise, a vast and nearly elliptical basin appears; the two diameters of which extend from Paris to Dammartin, and from Nogent sur Marne to Beaumont. The plain presents at its edges, and in the centre, hills and knolls of gypsum, as Montmartre, Chelles, Sannois, Montmorenci, Dammartin, &c. These elevations are, however, merely local, and do not affect the regularity of the basin; for otherwise its geological constitution is very uniform, the lower fresh water formation presenting alternately lacustrine marle and siliceous limestone, through nearly its whole extent. Under this fresh water deposit is found, at depths varying, according to the elevation of the spot, an extensive bed of green chloritic sand, sometimes sixty or eighty feet in thickness, forming a great subterranean reservoir, whence, on boring, springs burst forth with an unfailing supply. It would, however, be erroneous to suppose that boring would be attended with the same success in every part of this basin, although water exists under the whole of the surface; the success depending on the greater or less elevation of the locality, since it may be conceived, that as the subterranean water can only attain a maximum of ascent, corresponding to its original elevation, the boring must be commenced at a lower level, in order to procure a spring rising above the surface. It is for this reason that the boring performed at Villemomble and Pierrefite, did not produc such springs; although water was found and a considerable supply obtained.

The two places above-mentioned are about thirty yards above the Seine at St. Denis.

The lowest part of this basin, and where, consequently, the result is always certain, is the plain of St. Denis, above-noticed, which unfortunately rises with a gradual slope. The points where Artesian wells have been established, as at St. Denis, St. Ouen, Stains, &c., are not above ten or twelve yards above the Seine, which is the average level of the plain; but the springs are capable of rising much higher, at St. Denis and Stains, for instance, they have been found to rise in tubes to six or seven yards above the surface, or eighteen or twenty yards above the Seine. The rise of the water at Villemomble is not less than twenty-five yards above the same point. At Epinay, where there is likewise an Artesian well, the elevation of the soil is more than sixteen yards above the Seine; and yet Epinay is nearly at the limit of the fresh water formation. In general, springs will not reach the surface at any place in this plain, if they be more than twenty, or twenty-five yards at most, above the Seine; a condition which it will be necessary to ascertain before attempting to bore.

These springs are not all equally abundant, some of them discharge 100, and others 300 cubic yards in twenty-four hours, even when in the same vicinity; a difference to be ascribed to the manner of performing the process of boring. Some bore-holes may not probably be provided with a pipe entirely impervious, which would thus allow the ascending water to escape in part, so as to be lost in the surrounding strata; in others the boring has not been continued long enough to reach the sandy bed, and has therefore, only served to raise the water from higher parts; for this sandy bed is not of the same character throughout, as may be supposed; but contains alternately, fluid, sand, and sandy layers of an indurated and impervious nature. It is therefore necessary, in order to obtain the greatest supply possible, to pierce this layer, until we reach the bed of clay on which it lies. Should we wish to discover the geognostic causes of these subterranean aqueous collections, we may easily ascertain them. We know that the tertiary formations composing the soil of Paris and the environs, occupy the centre of a basin, round which chalk appears on all sides, so as to present, as it were, a spacious bowl, or depression, in which the sedimentary beds of more recent formation have been deposited. Now it is plain, that the water filtering downwards must at length reach the lowest impervious bed of chalk, and consequently lodge in the sand, which is exactly the case with the plain above described. The chalk, in fact, does not appear in this plain till we reach a depth of 300 to 400 feet below a horizontal plane, corresponding with the level of the Seine. Hence we derive another rule applicable to the plain of St. Denis, which is, that the ascending power of springs, and consequently their abundance at equal elevations of boring, are in proportion to the depth of the chalk below them. Thus, the volume of water is more considerable at Stains and St. Denis, than at St. Ouen and Epinay; and several borings performed at points nearer the southern limit of the plain, at Villiers for instance, did not produce a spring rising to the surface, although the points selected were very low. The cause of this is, the rise of the chalk, and consequently, of the water-bearing stratum on that side, and the proximity of natural outlets. In fact, the sandy bed is met with on the banks of the Seine, in the environs of Auteuil, Passy, and the Jardin des Plantes, where the waters find a lower level. These facts explain why so many Artesian wells are to be seen in the vicinity of Paris, and not in Paris itself, as—the chalk formation extending under the city is elevated, the part where the sand-bed might be reached by boring, and where the most considerable supply is to be obtained, although it would not rise to the surface, is evidently in the low quarters near the Gate of St. Denis, and St. Martin, and the Chateau d'Eau; for in this part of Paris a water level is found, which is the continuation of that of the plain of St. Denis. In proof of this we may mention the boring executed in 1780, in the garden of Vauxhall, rue de Bondy, by which the water-bed was found at 112 feet, the spring rising to the level of the cellar: this is the best result obtained in the capital.

It remains to consider where the external sources are situated, by which these subterranean water-bearing strata are fed; and, in the first place, they are not in the south of this plain, since we find the waters appearing there, at the surface, after their subterranean journey—neither is it probable that we shall find them east or north, that is, in the fresh-water formation on the chalk hills bordering on the Oise, and bounding the plain from Beaumont to Dammartin; for, in the first place, in general, we do not meet in this direction with the green sand-bed, where the water finds a stoppage; and secondly, there is no river in this part, no stream to which to attribute the subterranean supply: there is only the Oise, and the places where we might presume upon infiltrations from that river, are less elevated than those spots where Artesian wells are actually established. It is, therefore, towards the east, and south-east especially, we must look for the origin of the filtered waters; and, consequently, the Marne must be the feeder. It is deserving of notice, that it is precisely from this direction, south-east, the great irruption proceeded, whose character is so evidently imprinted on the forms of the headlands or promonteries, and on the direction of the principal hills in the Paris basin.

The bed of green chloritic sand extends under the southern plain of Paris in like manner, under the vast formation of marine limestone, and is almost always indicated by a stratum of chloritic limestone; but this sand-bed, not being under the same circumstances of situation, is not adapted for Artesian wells, although it yields water, which abundantly supplies the common wells of the barrière de l'Etoile, the rue du Jardin du Roi, the barrière Blanche, and the Bicêtre. We should be led to too great a length if we were to describe all the water-bearing strata, accidentally met with in fresh water, and marine limestone, and which have furnished springs. Such often occur in the common wells of Paris; and the boring executed at St. Ouen and St. Denis, has exhibited several very abundant ones. One of these, in a well at St. Ouen, bored through two water-beds, has risen above the level of the Oise, and empties itself by a pipe into the canal; another feeds an Artesian well otherwise scanty, in a very low part of the town of St. Denis.

We may here mention the small basin of Enghien surrounded on every side by natural enclosures; at its lowest point the waters have collected, and forms the lake of St. Gratien. In this basin the same process takes place subterraneously as at the exterior surface; the rain water filtering at the extremities of the basin through the higher sand of the gypsum formation, equally tend, under the surface, towards a point corresponding to the level of the lake; so that in boring at these extremities, on reaching a depth of thirty-five to fifty feet, little currents appear which rise to the level of a foot above that of the stagnant waters. This is the phenomenon of Artesian wells on the smallest scale, and as it were in miniature. It is only in consequence of the vicinity of the points of supply, and the scantiness of the supply itself, that the level and abundance of Artesian wells in this small basin vary in general so much.

We shall now notice, by way of concluding our remarks on the Paris basin, three Artesian wells at Tracy-le-Mont, near Compiègne; and three at Chateau de Monster, by Clermont (Oise), which rise from sands of the plastic clay. These wells are supplied by subterranean water-beds, occurring in the plastic clay, and of little further extent. All the tertiary formations of the Paris basin, as observed before, rest on an extensive stratum of chalk, it might, therefore, be expected to find water under this formation; and, in fact, we observe that at several places in the vicinity of this basin, very abundant supplies have been found on boring in the sand-beds beneath the chalk.

Basin of Allier.—The fresh-water deposits of the valley of Allier, composed of marl and clays alternately, with pervious sand-beds, enclosed between two primary formations in the valley of the river, where these form the basis almost throughout from Brionde to the department of the Nièvre, situated on a granite plane constantly descending, and whose inclination arises from the heaving of the volcanic masses of Cantal, finally bounded at some leagues from Moulins by a range of secondary formations which check the course of the subterranean streams, by bounding the lacustrine formations; these deposits present all the circumstances which are favourable to the establishment of Artesian wells. Several attempts have been made in that part of the plain of Allier, comprised in the department of that name, and those few which have been conducted with judgment, have all been completely successful. At this part of the valley, the filtered water from the higher parts following the slope of the water-bearing beds, must form by their union the most abundant reservoir. There are three fountains at Lacour, in the Canton of Contigny, between Moulins and St. Pourcain. An attempt to bore at Moulins was abandoned.

The Artesian wells of Marseilles may be as easily accounted for, however little the geognosy of this town has been studied. The circumstances to be remarked are on the one hand, the nature of the formation alternating with marine and fresh-water beds, the limestone, clay, and argillaceous pervious sands; and on the other, the position of this small tertiary basin, at most two leagues in diameter, open on the south to the Mediterranean, and on the other side, enclosed by a semi-circle of secondary mountains. The only difficulty which here presents itself is, the absence of aqueous reservoirs or collections, to which to ascribe the subterraneous water-bed. Every appearance indicates that the rain falling on the neighbouring mountains, naturally descends into this basin, and is filtered through the sandy beds of the tertiary deposit: an hypothesis the more probable, as the water-bed in question seems not to be very abundant. In the argillaceous sands, which probably occupy the lower part of this tertiary deposit, a water-bearing bed was reached on boring to the depth of 280 to 300 feet, the water of which rose to the surface.

The tertiary basin of Roussillon seems to be one of the best adapted for Artesian wells, as the neighbourhood of Bages possesses three natural, and very deep springs, rising above the surface. The first boring succeeded at a depth of twenty-six yards, in raising water above the surface, identical for clearness and temperature, with natural springs. The second trial was made beside the other, and, at forty-seven yards a subterranean stream was found, the water of which rose with such force and abundance as at first to startle the persons employed. The diameter of the bore was 3·6 inches, and supplied 2000 litres (about five hundred gallons) per minute, giving rise to a considerable rivulet. At Rivesaltes water was obtained at fifty-two yards, which rose more than fifteen feet above the surface, and seems to belong to the same water-bed as the great well of Bages. We may likewise notice an Artesian well in the tertiary formation at the south of France, rising from a water-bed at no great depth, and probably of very little extent, between Thiers and Perpignan; and several borings performed in the blue marls of the tertiary basin of the Hérault, which have not certainly produced artificial fountains, but yet have plainly indicated an ascending water-bed. It is besides, probable, that if this stratum of blue marl were wholly penetrated, lower water-levels would be found, supplying an abundance of water, capable of attaining a sufficient elevation.

The basin of London is surrounded, like that of Paris, by a belt of chalk hills; but with this difference, that the side next the sea is open, and the whole presents the appearance of a bay. In this basin the same phenomenon occurs as in that of Paris; the filtrations entering the subterranean strata at the line of the intersection of the tertiary and cretaceous formations. The water-bed, however, is not alike in both: thus, the clay of London generally presents nothing but a compact mass, without any subterraneous water-bed, as the limestone formation with fissures and permeable strata; while, on the other hand, the plastic clay of the London basin, divided very frequently by sand-beds, contain numerous water-bearing layers, rarely to be met with in the plastic clays of the Paris basin, which are compact and homogenous. The springs in the neighbourhood of London, are chiefly owing to the superincumbency of clay-beds over those of plastic clay, and especially over the sand-beds which pervade this last formation. The finest springs are at the south-west of this metropolis, at Hammersmith, Tooting, Merton, Fulham, Richmond, Kingston, Chiswick, &c.; at a depth varying from 250 to 350 feet. A much deeper one exists at Chiswick, in the Duke of Northumberland's park, bored to 620 feet, which most likely reaches the level of the upper surface of the chalk.

Various other Artesian wells have been bored in other tertiary basins of England; among others is one on the sea-coast of Yorkshire, bounded by the mouth of the Humber and Flamborough Head, composed of plastic clay, and flanked towards the land by chalk hills. Several of these wells at Bridlington are within the influence of the tides.

The city of Modena, situated in a vast plain at about seven or eight miles from elevated mountains, between the rivers Panaro and Secchia, possesses at a few feet under the surface a vast reservoir, from which every inhabitant may raise an inexhaustible supply, at a trifling expense. The waters of this reservoir take the same horizontal level throughout the plain; in the low parts of the city, to the north, and along the Æmilian way, they produce fountains springing above the surface; and in more elevated spots remain a little below it: they are drained by subterranean conduits feeding a canal, navigable for boats from Modena to the river Panaro, thus communicating with the Po, into which the former river discharges its stream. The number of these wells is very considerable, almost every house being furnished with one; and from this multiplicity it arose, that at the time Ramazzini wrote (1681), the level of the ancient fountains was lowered, and some of those situated on the highest grounds had ceased to rise to the surface. This water-bed extends five or six miles, by three and a half, from north to south, and is attained at the depth of sixty-five to seventy feet, through very recent strata, formed in a great part of decomposed vegetable matter, and alternate layers of argillaceous marl. We may here pause to inquire where the edges of this vast basin are, and where its waters re-appear on the surface, since they do flow; and it has even been observed that they flowed from west to east. Ramazzini states, that he examined the whole plain for this purpose without making any discovery; and found only a few ponds which dry up in summer; hence he concludes that the Appenines must contain the exterior reservoir. This idea, however, is far from probable, as the tertiary formations beneath which the water-beds occur, certainly do not extend to the Appenines; and we would, therefore, in preference attribute this subterraneous lake to the filtrations of the rivers Secchia and Panaro, notwithstanding the depression of their levels in dry seasons.

The Artesian wells of Modena are of very ancient origin, as we read in the work above-cited, of Bernardini Ramazzini, who says:—

"I am far from giving this discovery forth as a new one, for the origin of these fountains is probably no less ancient than that of the city, which is of very great antiquity. In fact, on digging some foundations over the ruins of the ancient city, leaden pipes were found, seeming to have communicated with old wells. It is natural to suppose that the first filtered waters being bad and unhealthy, the inhabitants dug wells, and being apprised at the depth of sixty-five feet by a subterraneous murmur of the vicinity of water, they determined to use the augur, and it is probably in allusion to this circumstance, that the city arms represent two augurs with the motto "*Avia, Pervia.*"

There is another Artesian well in the Fort Urbain, established by Dominique Casseni, which seems to rise from the sub-Appenine tertiary deposits. The fine Artesian wells of Stuttgard probably rise from alluvial deposits over testaceous limestone (muschelkalk). About four leagues from this city, on the left of the road to Ulm, in a narrow vale, composed of recent alluvial deposits, a basin of sixty yards in width is fed by five Artesian wells, each of which discharges, at least, 500 cubic yards in twenty-four hours. The town of Stuttgard is likewise provided with Artesian wells, which, according to the celebrated historian Niebuhr, are made mention of in very ancient works.

In Switzerland, the soil was bored some years since in search of salt, near Bienne, at four leagues from Soleure, and water rose in abundance to fifteen feet above the surface. But however encouraging this example and however favourable the position of Switzerland may be, being a sort of basin or elongated depression, whose bottom is overlaid by the extensive formation of nagelflue, the edges of which abut on the secondary and primary chains of the Jura and the Alps, thus forming immense reservoirs; it is nevertheless highly probable, that the very multiplicity of external streams will prevent the use of Artesian wells in that country.

Several attempts have been made in the tertiary basin of Tuscany; one at Grosseto, the principal town of the lower and southern province of Tuscany, proved successful, the water having risen several feet above the surface, after piercing to the depth of ninety-six yards. This result was the more valuable to the place, as the inhabitants previously possessed none but

brackish and unwholesome water. Borings are now being executed at Odessa through the tertiary deposits of southern Russia, the event of which is of so much the more consequence to that country, as the establishment of these wells in the midst of sandy heaths, would cause vegetation to spring up around, and place under the dominion of agriculture and civilization an immense tract of country, hitherto resigned to solitude and barrenness. One trial, to the depth of 600 feet, and of nine inches diameter, through alternate layers of clay, containing lignites and greenish sand, resting upon calcareous marl of great hardness, brought to light three ascending water-beds, the water of which rose to eleven and fifteen feet above the level of the sea; and every thing encourages the hope that perseverance will lead to a successful result.

Wells of the United States.—Most of the Artesian wells in the North American Union are established in a zone of tertiary deposits, of limited width, existing between the Blue Mountains and the ocean, and which are found almost invariably along the coast of this vast country. The numerous springs of New Brunswick rise from sand agglutinated into schistose sandstone by red oxide of iron, which M. Brongniart classes with the plastic clay of Paris. Those of Albany rise from a schistose clay coloured black by lignite. The wells of New York seem to spring from an alluvial deposit. It is possible, however, that several springs in the United States, situated on the tertiary deposits on the coast, may have filtered through the soil to the upper parts of the chalk formation, represented in some parts by sand and sandstone; but we are not furnished with sufficient information to decide the question.

Africa.—The Artesian wells of the African deserts in like manner derive their origin from tertiary deposits. The vast subterraneous bed from which they are supplied, called by the Arabs the "sea under ground," is overlaid by a black schistose clay of modern formation. Subjoined is a passage from Olympiodorus, quoted by Niebuhr, which proves their high antiquity. "They dig," says this historian, "in the oasis, wells of 200, 300, and even 500 cubits, the water of which spouts forth in a stream." The north coast of Africa, says Niebuhr, is designed by Nature to form a part of the countries bordering on the Mediterranean. The envy and jealousy of the European powers may, perhaps, for a lengthened period prevent civilization from penetrating these countries, but it will reach them ultimately; and then the subterranean aqueous treasures will prove an inestimable benefit. There is no doubt of the practicability of establishing stations at intervals through the desert of Sahara, in order to reach the interior, where would be found not only water, but plantations of palm trees, dwellings, gardens, and perhaps populous cities.

ARTESIAN WELLS IN SECONDARY FORMATIONS.

The secondary formations, although less adapted than the tertiary for the establishment of fountains, do, nevertheless, present some favourable geological circumstances. Unfortunately, the attempts have here been few, and often abortive, since the phenomenon here takes place on a larger scale; the strata generally are thicker, the alternations less frequent, the points from which the waters flow in different directions, are wider apart, so that it is almost always necessary in these formations to penetrate to greater depths, in order to obtain satisfactory results. The springs they afford are, therefore, more scarce, but infinitely more copious than in the tertiary deposits; from them, indeed, arise those abundant springs which form considerable rivers at their commencement, as those of Vaucluse, Nimes, La Laisse, Sassenage, and that of Touvres, which turns twelve or fifteen wheels at the great canon foundry near Angoulême, at 2400 yards from its source. The secondary, as well as the tertiary deposits, contain at certain parts pervious strata; for in the different stages of this formation we find a repetition of three series of sands, limestones, and clays: the sandy strata lead to the presumption that subterranean water-beds exist. These deposits are in a similar manner arranged in basins, but of a much larger size; their order having been in many cases disturbed by extraneous forces.

Among these basins we would notice one which has been more studied than all the others; that is the great basin comprising London and Paris, and of which Mr. Elie de Beaumont has demonstrated the contemporaniety, and almost complete uniformity of formations. Thus, after passing through the chalk which forms the interior of the zone, we find in England, Normandy, and the Calvados, the same formations as in Burgundy and the neighbouring provinces; and there is no doubt, from this general disposition of the strata, but that boring, attempted at suitable points, would lead to ascending waters in the great permeable strata of the different secondary formations in this basin. We shall here cite a few instances, and first adduce those wells situated in the chalky mass, occupying the upper part of the great secondary basin just alluded to.

Most of the springs of Artois are situated in what is called the "low country," a plain at a level of small elevation, and entirely composed of recent formations. It is easy to conceive that the waters proceeding from the higher levels, and spreading over the department of the Pas de Calais are filtered through innumerable fissures into the upper strata of chalk, where they are held by the impervious tertiary strata above them. On the sea-coast between Capes Blanc, Nez, and Gres Nez, copious streams of water may be seen escaping from the clefts of the chalk rocks. Mr. Garnier has published a treatise on Artesian wells, which may be consulted with advantage; but, unfortunately, he has expatiated largely on the very defective tools employed by the workmen of Artois, and has passed over the geological part very slightly. Mr. Garnier, moreover, has fallen into a considerable error, which it is the more necessary to point out, as he has not corrected it in his second edition, but repeats it several times over. He asserts that the formations best adapted for arriving at subterranean water-beds are those of limestone in general, and chalky limestone in particular. This assumption is plainly opposed to the facts which we have recorded, and to those which we shall yet have to notice. It is only in Artois and in the adjacent provinces that such springs are fed from fissures. All other Artesian wells, whether in tertiary or secondary deposits, derive their supply from sand-beds, lying between impermeable strata, whether sandstone, clay, or limestone, which is of little importance. Even the wells of Sheerness, which he instances in support of his opinion, arise, as we shall see, from sand-beds, which lie between the plastic clay of the London basin. The case is the same with the wells of the barrière Blanche at Paris, which he likewise notices, and which spring from the extensive bed of green sand, divided at this part from the chalk formation by a stratum of plastic clay, 80 to 100 feet in thickness. Among the springs of Artois which rise above the surface, are to be remarked those of Lille, one of which was formed in 1126; another between Bethune and Aire, the deepest of the Pas de Calais, whose waters rise from a depth of 450 feet; the four springs of Gonnchenm, near Bethune, which render even the chloritic sands chalky, as well as the wheels of a mill turned by them; those of Ardres, Choques, Annezin, Aire, Merville, Blingelle, Bethune, Marchiennes, Somaing, St. Amand, &c.

The bored wells of Abbeville, Courtalin (Seine and Oise), St. Quentin, and the valley of Authie and Noyelles-sur-Mer, likewise spring from chalky fissures, overlaid by impervious tertiary formations; and although mostly situated in a low valley, and commanded by elevated and extensive plains, are not very copious, and reach a very trivial altitude. The springs of Abbeville and Noyelles-sur-Mer are liable to the influence of the tides, and rise and fall with the ebb and flood. That of Noyelles at low water is usually two yards below the surface, and at high water rises nearly to the level of the ground. A valve at the lower extremity of the tube prevents the water from returning into the bore-pipe, and retains it in the reservoir when it is low water in the bay of the Somme.

It has long been remarked that a striking analogy exists between the last strata of the tertiary and the lower strata of the chalk formation. There are found above and below the formation clays and limestone almost identical with each other.

The combination of these formations, which are almost always pervious, comprising green sand and sandstone, iron sand and weald clay, has been classed by M. Omalius d'Halloy with the cretaceous strata, and M. Brongniart has described them under the appellation of "sandy strata."

In these pervious layers the water-beds must be numerous. The springs which give rise to the rivers Toucques, Eure, Ourque, Ilon, Rille, Orne, Mayenne, Sarthe, Huisme, and Loir, derive their origin from the superincumbency of the chalk over the Jura formation, and flow from the centre of the narrow slip of detached country in the west of France, which represents the secondary epoch, and extends from Caen as far as La Fleche.

Several Artesian wells rise from these sand-beds, that of Tours, for instance. After boring through the vegetable soil, the alluvial and sandy strata near the surface, the augur entered the chalk at 8.37 metres; this was penetrated at 71.17 metres, then entering sandstone, mixed with lime and shells, alternating with marls and clayey green sand. The first ascending water-bed was met with at ninety-eight metres (about 108 yards); a second at 112 metres, and a third at 122 metres (or 133 yards), which latter rose with impetuosity, bringing up a great quantity of green sand, as was the case with the wells of the plain of St. Denis. These waters were raised to more than seven metres above the pavement of the Place St. Gratien, and to more than fifteen metres above the Loire. At Rouen also there are two Artesian wells, rising from the sand-beds which form the lower part of the sandy strata and the upper part of the oolitic limestone. These wells have penetrated the alluvial deposits of the Seine, clays containing lignite, sandstone, and iron sand. They are sixty-nine metres in depth, or about seventy-five yards. The last, sunk by Messrs. Flachat, discharges a great quantity of water above the surface. During the progress of boring this well there were found five sheets of ascending waters before reaching the last, which produced an Artesian well. It is probable that in most situations which are but little elevated above the chalk basin, if the augur be driven as far as the lower sands, abundant subterranean water-levels would be found as well as at Tours and Rouen: the only obstacle to surmount is the thickness of the chalk. At Paris, where the attempts made in the upper tertiary strata preclude the hope of springs rising above the surface, it would be necessary, in order to succeed, to bore through the mass of chalk that is to the depth of 700 feet at least. A work with this view has been prosecuted at Surène as far as 600 feet; at this depth they were still in the chalk, but probably the lower clays and sands were then at no great distance. The Municipal Council of Paris has set apart a certain sum to defray the expense of boring through the chalk. In so extensive a formation as that of the chalk in the immense basin, the two diameters of which reach from Châtellerault to this side of Lille, and from Troyes to Havre, it is difficult to determine the position of the exterior reservoirs which feed these vast subterranean lakes. We believe, however, that the points of filtration must be sought for at the highest part of the terminal line of the basin on the continent. On the line of superposition of the chalk stratum over the sand bed, which pervades the whole of the Jura formation of the east of France, it will be found that those immense infiltrations take place, which subsequently appear at the surface with the sand formation, in the secondary zone of the departments of the Orne, the Sarthe, and the Mayenne, where they form copious springs, as we have noticed above. In support of our opinion, we may adduce the springs above the surface in the Andelle, the Epte, and Arques, which appear in groups near each other, in a part of the chalk-basin near Forges (Pays de Bray), where the lower strata rising form a kind of island in the midst of the chalk.

It may be urged in opposition to this hypothesis, that the points whence these filtered waters proceed, are at too great a distance, and that so long a subterranean course is improbable; but this does not appear to be a very serious objection. There are natural springs which cannot but have their origin at much greater distances. Such are the fresh-water springs frequently met with in the middle of the sea. In the *Edinburgh Philosophical Journal*, mention is made of one discovered by Buchanan in the Indian Ocean, at a distance of more than 100 English miles from land.

In proportion as we descend in the scale of secondary strata, the geological circumstances become less favourable to the formation of springs rising above the surface, and, consequently, we meet with few Artesian wells in the oolite formations. It is probable, however, that on penetrating all the clay beds forming the upper parts, subterraneous watercourses would be found; and it is, in fact, from the upper stratum of the oolite that the Artesian wells of Rouen originate.

We have heard mention made of a well recently formed at Glos, near Lisieux, in sands and gravel equivalent to the clayey marl of Honfleur, and resting immediately on the limestone of Blangy. It is to be regretted that the boring begun at Havre, and continued to the depth of 630 feet, was discontinued. This work exhibited in succession all the strata found on the other side of the sea, in the department of Calvados, and in Great Britain; the clay of Toncques corresponding to the Kimmeridge clay; the limestone of Blangy to the coral rag of England, and the clay of Dives corresponding to the Oxford clay. We showed Mr. Elie de Beaumont some small ammonites impregnated with pyrites, which characterise the latter clay-bed, in which the boring was stopped; it is probable that they were on the point of reaching the lime stratum of Caen, and perhaps a spring would have been found in the bed above these two strata.

We have met with an Artesian well in lias. This well is at Prix, near Mézières, where the soil was bored in search of coal, and is 143 metres in depth, discharging water impregnated with salt in the proportion of 2½ per cent. The first strata pierced were clayey-limestone, and marls mixed with sand; then the limestone, with gryphites, which occupies the middle of the lias formation. The saltness of this water may lead to the idea that it springs from the *keuper* stratum underneath the lias. This *keuper* stratum (equivalent to the new red sandstone) contains several combinations of rocks, designated by various names, as keuper, variegated marls, red marl, and muschelkalk, or *shelly limestone*. Being chiefly composed of various coloured marls, and of sand-beds alternating indefinitely, it seems very favourable to the attainment of springs. From this stratum proceed most of the salt springs, connected in groups, or by sinuous communications, and taking various directions, which would point out, according to M. Humboldt, the existence and the direction of the subterranean rivers.

At Jarville, in one of the Faubourgs of Nancy, is an Artesian well, bored through variegated marls, which rises from a depth of 182 feet to 14 feet above the surface. The strata passed through successively were white, blackish, violet, red, and grey clays. The water-bed was found under a small layer of sandstone of four feet thick. In England there are several Artesian wells bored through red marl, principally in Derbyshire. Red marl, in fact, presents in this and the neighbouring counties all the circumstances favourable to the formation of the subterranean waters. On the one hand, these red marl-beds contain numerous alternations of pervious sand-beds; and, on the other hand this clay stratum forms a sort of basin, contorted, it is true, in many places, but encircled on the Derbyshire side by mountains formed of the coal-measures, sandstone, and metalliferous limestone. The Artesian wells of Derby are not deeper than sixty to eighty feet; but the case is different in the neighbourhood of that town, according to the locality: one is mentioned in which the water-bed was not reached at less than 250 feet. When water is not found underneath the first stratum of red marl, a second, a third, &c. is pierced, and the water ascends higher, and is more copious in its supply the deeper the boring is made—its point of derivation being then more elevated. Near Preston, in Lancashire, there is also a certainty of finding water which will rise above the surface, on boring the red marl to a certain depth.

The only Artesian well, to our knowledge, in more ancient strata is that of Creutwald, in the department of the Moselle. The boring, commenced for the purpose of ascertaining the extent of the coal-field of the Sarre, penetrated ninety-three metres of reddish, porous sandstone, which coincides with the great sandstone formation of the Vosges, and gave rise to a considerable fountain. We are not informed of any spring bored in the coal or transitions formation; and yet we find, from the observations published by Mr. von Buch, of the temperature of springs, that a boring was made in greywacke at Nauheim, in Wetteravia, in search of salt, and that 36,000 cubic feet of water were discharged from the tube in twenty-four hours, bubbling, in consequence of containing carbonic acid.

With regard to primary formations, it may be concluded, from what has been advanced, that they are altogether unfit for Artesian wells; since it would be absurd to attempt a difficult and expensive search for fissures containing water, which are so scarce in these formations. However, boring was undertaken for water in the town of Lyon, where primary rocks appear on every side, at a few feet beneath the soil, on digging wells or foundations, and even in the bed of the Saône. Trials have likewise been made in the primary strata of Madrid. How much expense might have been avoided by even the most cursory study of the manner in which the subterraneous waters reach the surface!

We might have enlarged on the numerous facts brought forward in this Treatise, but we are unwilling to go beyond the object which we had prescribed to ourselves; namely, to exhibit a general outline of the principal geological facts applicable to the search of subterraneous waters. In a few years from the present period, when more attempts shall have been made, and the number of authentic accounts shall have become more considerable, endeavours may be made to trace with more or less accuracy the external source, the subterranean progress, and the re-appearance at the surface of those waters which supply Artesian wells in various countries. The task will be arduous, and will require laborious research. It has sufficed us to prepare the way as far as was practicable for those who may one day have to undertake it, by now drawing up, as it were, an abridged outline of the science.

NEW LINES OF RAILWAY.

From an article in the January number of the *Railway Magazine*, we find that no less than 118 notices have been given of intended applications to Parliament for Acts, or amended Acts, for railways, from which it appears, that eighty-five are for new lines; twenty-eight for extensions, deviations, or branches; four for enabling companies to raise further sums of money; and one for enlarging the time named in the Act. The following are the titles of the several undertakings for which notices have been served:—

Alverstoke and Portsmouth Junction; Androssan and Kilmarnock; Bath and Weymouth Great Western Union; Beccles, Bungay, and Harleston; Belfast and Hollywood; Birmingham, Bristol, and Thames Junction; Birmingham, Dudley, Stourbridge, and Wolverhampton; Birmingham and Derby; Birmingham and Gloucester; Bishop-Auckland and Weardale; Bolton and Preston; Brecon and Merthyr-Tydvil; Brighton and London (Cundy's); Bristol and Gloucestershire; Cambridge and Bury St. Edmund's; Canterbury and Whitstable; Central Kentish and Sandwich Harbour; Cheltenham and Great Western Union Branch; Cheltenham and Oxford, and London and Birmingham; Chester and Grand Junction Union; Chester Junction; Chester and Woodside; Christchurch and Abergavenny; City of London and Richmond; Clarence and Stockton, and Darlington Union; Commercial (London and Blackwall); Cork and Cove; Cork and Passage; Devises and Melksham Great Western Branch; Doncaster, North Midland, and Goole; Drogheda, to Kells, in the county of Meath; Dublin and Drogheda; Dundalk Western; Durham Junction; Durham and Sunderland; Eastern Counties; Edinburgh and Glasgow; Edinburgh, Haddington, and Dunbar; Glasgow, Paisley, and Greenock; Glasgow and Newtown; Glastonbury and Bruton (Somerset); Gloucester and Bristol; Gloucester and South Wales; Grand Connection; Grand Junction; ditto, from Stafford to the London and Birmingham Railway at Rugby; Grand Northern Trunk (Ireland); Great Central Irish; Great North of England; Great Leinster and Munster; Great Western (Extension to Paddington); ditto, deviations and alterations; Hampshire and Wiltshire Junction; Hartlepool and Clarence Union; Hardwich; Hull, Lincoln, and Nottingham; Hyde Park and Richmond; Ipswich and Bury; Irish Eastern and Western; Johnston and Ardrossan; Kent (London and Dover); Kilmarnock; Kingstown and Bray; Lancaster and Preston Junction; Leicester and Swannington; Liverpool and Manchester; London and Brighton (Stephenson's); London and Brighton (Rennie's); London and Brighton (Gibb's); London and Croydon; Londonderry and Enniskillen; London, Exeter, and Falmouth; London, Ramsgate, and Dover; London, Rochester, and Chatham; London and Southampton; London, Ware, and Hertford; Manchester, Bolton, and Bury Canal Navigation and Railway; Manchester and Leeds; Manchester, Leeds, and Goole; Manchester and Rickerscote; Manchester and Tamworth; Maryport and Carlisle; Midland Counties; New South Durham (or Weardale Junction); Northern and Eastern; Norwich and Leicester; North Midland; Oxford and Great Western Union; Oxford, London, and Birmingham Union; Penryn and Helston; Polloe and Govan, and the River Clyde; Portsmouth Junction; Preston and Wyre; St. George's Harbour and Railway; Salisbury, Romsey, and Southampton; Sheffield, Ashton-under-Lyne, and Manchester; Sheffield and North Midland; Slamannan; South-Eastern; South-Eastern, Brighton, Lewes, and Newhaven; South-Eastern, Canterbury, Ramsgate, and Sandwich; South-Eastern and Maidstone; South Midland Counties; Southwark and Battersea; South-Western; Stirling, Stourbridge, Dudley, and Birmingham; Taff Vale; Tilbury Fort and Thames Haven; Truro, Redruth, and Penzance; Union; United Armagh and Dublin, and Drogheda (Inland); United Kingdom General; Warwick, Leamington, to join the London and Birmingham near Coventry; Westminster Bridge, Deptford, and Greenwich; Whitby and Pickering; Wishaw and Coltness; York and North Midland.

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ORGANIZED EXISTENCE IN THE INTERIOR OF COAL PITS.—Besides the rarer occurrence of ancient vegetable forms, the curious visitor will commonly be interested by the more recent manifestations of organized existence. In the damp recesses of the mine, several species of the fungus family make their appearance; as these are most beautifully white, sometimes filamentous, at others like tanned leather, they contrast strikingly with the sombre aspect of the coal from which they shoot. Not only are there various species of the fungi met with in the forsaken workings of old coal mines, but sometimes mosses, especially the *rhizomorphacea*, or root moss. Efflorescences of mineral matters of considerable interest sometimes occur—in minute capillary mosses frequently; occasionally, however, judging from specimens in the museums at Newcastle and other places, very fine crystals of sulphate of lime are found in the abandoned galleries in Felling colliery; "teaching," as was lately remarked, "important truths as to the power and action of what have been called 'diurnal' geological causes." But if courage be required to enter a coal mine at ordinary depths, it is in descending the frightfully deep pits in the neighbourhood of Newcastle that sensations bordering on the awful are inevitably experienced; and at traversing at such profound depths the galleries into which the shafts ramify, the visitor is struck by the perfection of plans adapted to lessen, as much as possible, the risk which the pitmen run in situations where the great value of coal induces them to get it as completely as possible. On the other hand the vast caverns formed in getting the thick Staffordshire coal exhibit on a much more striking scale the combined operations of the miners, from the space which, when artificially illuminated, the eye commands at once, at the same time that persons may move about more commodiously, and also with fewer apprehensions of danger from explosions or foul air.—*History and description of Fossil Fuel.*

SHORT CHIMNEYS *v.* TALL.—A discovery has been made in chimney-building which is likely to put a stop to the building of lofty pillars for the purpose of carrying away engine-smoke from manufactories. The only scientific reason assigned for building these lofty stalks is that the increased height gives an amazingly increased draught. But it was found that a chimney of the ordinary height, or at most sixty or seventy feet, which is so constructed as to have the inside of the flue narrowest at the bottom, and gradually widening as it ascends, has the effect of increasing the draught and burning the smoke in a much greater degree than is produced by a tall flue on the old principle. A chimney built on the new principle has the appearance outward of a tower, as it stands upon a large base, and carries its width on the outside to the very top. The cost is not one-third of that of one of the tallest chimnies, and the danger of falling is comparatively small. Messrs. Clarke, cotton-spinners, in Glasgow, have just proved the superiority of the new system, having recently built a chimney on that principle, about seventy feet high.

PRICES OF MATERIALS IN CORNWALL.

AS SUPPLIED AT THE PRINCIPAL MINES IN THE FOLLOWING MONTHS.

	JULY AND AUG.		SEPT. AND OCT.	
Common iron, per cwt.	12s	6d	12s	0d
Half-inch square ditto, and five-eighths round	13	6	15	0
Best tough chain, five-eighths	18	6	15	6
Boiler plates	16	6	16	6
Hoop iron	16	6	16	0
Nail rods	14	6	14	0
Miners' shovels	38	0	38	0
Charcoal iron	15	0	15	0
Gunpowder, per 100 lbs.	42	0	42	0
Leather, per lb.	2	1	2	1
Coa , per ton, at quay	16	6	16	6
Candles, per dozen lbs.	5	6½	5	2
Tallow, per cwt.	46	0	45	4
Ropes	34	0	34	0
Flat ropes	36	0	36	0
White yarn, per lb.	0	4	0	4
White rope	0	4	0	4
Brass-wire sieves, each	4	8	4	8
Iron-wire ditto	3	2	3	2
Iron-wire work, per foot	1	6	1	6
Board nails, per cwt.	24	6	24	6
Half-board ditto, per 1000	6	6	6	6
Hatch ditto	4	6	4	6
Half-hatch ditto	3	8	3	8
Linseed oil, per gallon	4	6	4	6
Rape ditto	4	8	4	8
Birch, per foot	1	7	1	7
Pine	1	6	1	6
Sheet lead, per cwt.	32	0	32	0

STEAM-ENGINES STAMPING ORES,

IN NOVEMBER, 1836.

MINES	Engine and the Diameter of the Cylinder	No. of Heads	Consump. of coal in bushels	No. every head lifts p. stroke	Pounds lifted 1 foot high by consuming a bushel of coal	No. of strokes p. min.	Engineers' Names
Ballaswidden	24 in. *d*	35	1040	2¼	18,907,673	17,9	W. Trezise.
CharlestownU.	32 in. *s*	75	230	5	42,022,663	8,03	J. Sims.
Wheal Kitty	32 in. *s*	66	904	5	50,625,037	8,63	ditto
Wheal Vor	24 in. *s*	34	910	2¼	16,591,458	17,5	Richards.
Ditto	27 in. *d*	36	966	2¼	14,164,072	14,29	ditto
Ditto	16½ in. *d*	24	—	2	——	12,5	ditto
Ditto	20 in. *d*	24	—	2,9	——	12,3	ditto

Average height which every head lifts in nine inches—9.

STEAM-ENGINES DRAWING ORES,

IN NOVEMBER, 1836.

MINES	Engine, and the Diameter of the Cylinder	Consump. of coal, in bushels	Aver. No. of kibbles drn. fr 100 fms	Average wt. of a k bble in pounds.	Pounds drawn 1 foot high by consuming a bushel of coal.	Engineers Names
East Crinnis	Randle's	288	2809,46	750	4,389,781	J. Sims.
Ditto	Gill's	112	818,94	780	3,421,999	Ditto.
Pembroke	Edgcumbe's	228	1241,96	960	3,137,583	Ditto.
Consolidated Mines	Taylor's	290	11253,16	634	14,761,041	Hocking and Loam.
	Davey's	286	11015,05	657	15,182,282	
	Pearce's	152	8581,59	664	22,492,799	
	Elveen's	426	7271,4	687	7,035,847	
	Deebie's	266	6011,61	732	9,925,936	
	Woolfs'	359	9331,38	571	8,905,099	
	Bawden's	105	3252,7	743	13,810,034	
	Shears'	52	1424,26	657	10,796,986	
United Mines	Poldorey	246	7494,8	620	11,333,600	
Ditto	Hocking's	206	7138,25	713	14,823,996	
CharlestownU.M	....	206	3639,94	1120	11,873,979	J. Sims.

FROM THE LONDON GAZETTE,

Tuesday, Dec. 27.

PARTNERSHIPS DISSOLVED.

W. Tucker and T. Colman, Bristol, brewers—J. Dorset and W. Dorset, King street, Westminster, tallow chandlers—C. Everett, C. J. Everett, C. Everett, jun., and J. H. Smith, Manchester, so far as regards J. H. Smith—J. Clarke and G. Hannent, Norwich, cork manufacturers—G. Stone and T. F. Gibson, Spital-square, silk manufacturers—W. Jenkinson and W. Bow, Salford, machine makers—E. Kirkby, J. Kirkby, jun., J. Gregory, W. Gregory, and J. Kirkby, sen., Sheffield, silver platers—W. F osbrooke and J. Parker, Loughborough—S. D. Stone and T. Chapman, Bishops ..atfield, Hertfordshire—S. Rogers, J. Towgood, S. Olding, C. Towgood, S. Sharpe, and W. Boycott, Clement's-lane, bankers; so far as regards C. Towgood—W. Foxhall, J. Howden, and J. Cordingley, Wakefield, ironfounders; so far as regards J. Howden—W. Alcock, J. Hollinshead, W. Taylor, and B. Venables, Shelton, Staffordshire, earthenware manufacturers—T. Morris and W. Fielding, Manchester, joiners.

INSOLVENTS.

Dec. 24.—Edmund Dowling, King-street, Tower-hill, grocer.

Dec. 27.—Richard Carruthers, Lower Thames-street, wholesale cheesemonger.

BANKRUPTS.

Edward Mathews, Lad-lane, silkman, to surrender Jan. 10, Feb. 7, at the Court of Bankruptcy, Basinghall-street. Solicitors, Messrs. Johnson, Son, and Weatherhall, King's Bench-walk, Temple; and Messrs. Higson and Sons, Manchester; official assignee, Mr. Lackington, Basinghall-street.

Richard Witherby, Nicholas-lane, merchant, Jan. 5, Feb. 7, at the Court of Bankruptcy, Basinghall-street. Solicitors, Messrs. Swain, Stevens, Maples, Pearse, Hunt, and Stevens, Frederick's-place, Old Jewry; official assignee, Mr. Abbott.

Thomas Marshall, High-street, Whitechapel, cheesemonger, Jan. 5, Feb. 7, at the Court of Bankruptcy, Basinghall-street. Solicitor, Mr. Hutchison, Crown-court, Threadneedle street; official assignee, Mr. Pennell.

Jonathan Nicholson, Southampton-court, Holborn, carpet-bag manufacturer, Jan. 6, Feb. 7, at the Court of Bankruptcy, Basinghall-street. Solicitors, Messrs. Newton and Dickson, Furnival's-inn, Holborn; official assignee, Mr. Cannan, ...brook-court, Basinghall-street.

Michael Fowler, Bushey, Hertfordshire, cattle dealer, Jan. 7, Feb. 7, at the Court of Bankruptcy, Basinghall-street. Solicitors, Messrs. Hardwick and Davidson, Lawrence-lane, Cheapside; official assignee, Mr. Groom, Abchurch-lane.

Paul John Bedford, Percy-street, Tottenham-court-road, music-seller, Jan. 10, Feb. 7, at the Court of Bankruptcy, Basinghall-street. Solicitor, Mr. Casley, Guildford-street, Russell-square; official assignee, Mr. Edwards, Pancras-lane.

Samuel Douglas, Robinhood-lane, Poplar, omnibus proprietor, Jan. 6, Feb. 7, at the Court of Bankruptcy, Basinghall street. Solicitor, Mr. Braham, New-inn; official assignee, Mr. Goldsmid, Ironmonger-lane.

John Platt, Barland, Cheshire, cheese factor, Jan. 24, Feb. 7, at the Blossoms-inn, Chester. Solicitors, Messrs. Harper and Jones, Whitchurch, Shropshire; and Messrs. Blackstock, Bunce, Vincent, and Sherwood, Paper-buildings, Inner Temple.

John Booth, Portsea, working jeweller, Jan. 3, Feb. 7, at Totterdell's Commercial Hotel, Portsea. Solicitors, Mr. Paffard and Mr. Low, Portsea; and Mr. Ivimey, Chancery-lane.

Jonathan White Haythorn, Manchester, cotton thread manufacturer, Jan. 16, Feb. 7, at the Commissioners' Rooms, Manchester. Solicitors, Mr. Sale, Manchester; and Messrs. Baxter, Lincoln's-inn-fields.

James Elliott, Derby, currier, Jan. 7, Feb. 7, at the King's Head inn, Derby. Solicitors, Mr. Williamson, Derby; and Messrs. Keddell and Baker, Fenchurch-st.

DIVIDENDS.

Jan. 17, W. Key, Isleworth, linendraper—Jan. 19, R. Smith, Regent-street, woollendraper—Jan. 17, C. Dod, Mark-lane, ship-owner—Jan. 17, J. Cooke, South Molton-street, tailor—Jan. 17, J. Hamilton, King-street, St. James's, wine merchant—Jan. 17, W. J. Ruffy, Budge-row, Watling-street, printer—Jan. 19, G. A. B. Fielding, Portsea, Southampton, brewer—Jan. 27, J. Parsons, Brill, Buckinghamshire, grocer—Jan. 18, J. Unsworth, Radcliffe, Lancashire, ironmonger—Jan. 21, H. Force, Exeter, cabinet maker—Jan. 18, J. Gibson, Northwith, Cheshire, victualler—Jan. 23, G. Walker, Newport, Shropshire, draper—Jan. 25, J. Ecroyd, Liverpool, tea dealer.

CERTIFICATES to be granted, unless cause be shown to the contrary, on or before Jan. 17.

H. Breakwell, Throgmorton-street, tailor—S. Horsfall, Sowerby-bridge, dyer—G. R. Nayler, Exmouth-street, Spafields, grocer—S. Hills, Hammersmith, schoolmistress—J. Deeley, Battle's-bridge-mill, Essex, miller.

Friday, Dec. 30.

PARTNERSHIPS DISSOLVED.

J. Towne and R. W. Crowther, Old Broad-street—A. B. Warmell and R. H. Walst, Old Montague-street, Whitechapel, soap-manufacturers—W. Oaks, T. Dodson, and J. Blindell, Haydon-square, Minories, copper-smiths; so far as regards J. Blindell—S. Mounsey and C. Jardine, Basinghall-street, woollen-drapers—C. Francis, J. B. White, C. L. Francis, and A. Francis, nine-elms, Battersea, cement-manufacturers—R. C. Vaughan and E. C. Vaughan, Liverpool, merchants—A. Redford and W. Robins, London-road, Southwark, printers—C. S. Steuart, J. Alexander, and A. S. Finlay, Bombay—T. R. Batson, H. L. Pattinson, and G. A. Brumell, Newcastle-upon-Tyne, soap-manufacturers—J. Whyman and J. Smith, Vere-street, Oxford-street, perfumers—W. Thomas, jun., and J. Chirm, Birmingham, manufacturers of soda-water—J. Chalklen and T. Bonham, Oxford-street, engineers—W. Sykes and F. Cook, New Catharine Wheel inn, Bishopsgate-street, carriers—G. A. Ward, H. W. Ward, and R. Ward, Wisbeach, Cambridgeshire, merchants; so far as regards R. Ward—T. Bold and G. Russel, Liverpool, ship-brokers—I. Davidson and L. Repheles, Falmouth, wholesale jewellers—J. Fisher and E. Fisher, Hertford, curriers—G. Robinson and W. H. Morris, Doncaster, coal-merchants—W. Gray, A. G. Lang, J. T. Brown, and W. Gordon, Havannah.

INSOLVENTS.

Dec. 30.—Simon Peter Rice and Phillip Rice, Addle-street, warehousemen.

BANKRUPTS.

George Green, Eagle-street, Red Lion-square, coach-broker, to surrender Jan. 13, Feb. 10, at the Bankrupts' Court, Basinghall-street. Solicitor, Mr. Rawlins, Salisbury-street, Strand; official assignee, Mr. Clark, St. Swithen's-lane, Lombard-street.

Samuel Thompson, Upper Rathbone-place, Oxford-street, tallow-chandler, Jan. 11, Feb. 10, at the Bankrup s' Court. Solicitor, Mr. Ross, Hammersmith; official assignee, Mr. Johnson, Basinghall-street.

Thomas Hargreaves, Manchester, innkeeper, Jan. 16, Feb. 10, at the Commissioners' Rooms, Manchester. Solicitors, Mr. Chew, Manchester; and Messrs. Adlington, Gregory, Faulkner, and Follett, Bedford-row.

Charles Milsom, Stapleton, Gloucestershire, victualler, Jan. 14, Feb. 10, at the Commercial Rooms, Bristol. Solicitors, Mr. Haberfield, Bristol; and Messrs. Makinson and Sanders, Middle Temple.

James Stout, Liverpool, boot-maker, Jan. 11, Feb. 10, at the Clarendon Rooms, Liverpool. Solicitors, Mr. Holden, Liverpool; Mr. Toulmin, Liverpool; and Messrs. Walmsley, Keightley, and Parkin, Chancery-lane.

DIVIDENDS.

Jan. 20, T. Matthews, Margaret-street, Cavendish-square, coach-maker—Jan. 23, M. Preast, Reading, Berkshire, nurseryman—Jan. 23, J. W. Coster, George's-place, Holloway, colourman—Jan. 21, C. Aders, Crutched-friars, merchant—Jan. 21, J. A. Molteno, Pall-mall, printseller—Jan. 20, T. J. Titterton, Gray's Inn-lane, coachmaker—Jan. 20, S. Mills, sen., and B. Jowett, Bolt-court, Fleet-street, printers—Jan. 26, E. Garnett, Lancaster, coal-merchant—Jan. 30, G. Francis and T. Francis, Cambridge, corn-merchants—Jan. 30, W. Robinson, Auckland, Durham, horse-dealer.

CERTIFICATES to be granted, unless cause be shown to the contrary, on or before Jan. 20.

E. V. Blyth and C. A. Kell, Birmingham, factors—G. Strutton Chester, hotel-keeper—W. Thompson, H. Leonard, and R. B. Dawes, Birmingham, factors—L. Hyman, Plymouth, dealer in jewellery—R. Howarth, Lane-side, Lancashire, cotton-spinner—J. Matthews, Long-acre, wax-chandler.

SCOTCH SEQESTRATION.

Arthur Connell and James Connell, Glasgow, merchants, Jan. 5, 19, at the Black Bull Inn, Glasgow.

COMMERCIAL INTELLIGENCE.

THE COLONIAL MARKETS.—The Market for British Plantation sugars remains closed, owing to the entire suspension of wholesale business during the holidays, consequently we have nothing to report; business, however, will be resumed on Tuesday next, when a public sale of about 114 hhds. will be brought forward.

Mauritius.—There has been some little demand from the grocers for those descriptions suitable for their use, and higher prices have again been paid. On Tuesday next about 10,000 bags will be brought to public sale.

EAST INDIA SUGARS.—A limited business has been done in Bengal, which has been taken in small quantities for home consumption at rather advanced prices. About 1500 boxes of Havannah will be offered at auction on Tuesday week.

Refined Sugars.—There has been a steady demand from the grocers for refined goods; the stock in the hands of the refiners being small, fully last week's rates have been maintained; the grocers have paid 79s. and 80s. for good grocery lumps just below the standard; for fine crushed 37s. 6d. have been paid, and for Dutch crushed 34s. 6d. to 35s. per cwt. Bastard sugars are in demand, and prices are firm.

TEAS.—Owing to the holidays but little business has been transacted this week; a demand for low Congous and fine Hysons being the only feature in the few transactions that have taken place.

COFFEES.—The market for all kinds has been very quiet; British Plantation sorts have been very little in demand, for which steady prices are said to have been paid; not a transaction is reported in any kind of East India, either for home use or exportation.

TALLOW.—The prices of Petersburgh yellow candle tallow have advanced considerably, but the business done has not been of any moment: the trade have been compelled to pay 44s. to 44s. 3d. on the spot, but they do not purchase beyond what they require for immediate consumption; for delivery contracts have been made at 44s. and 44s. 3d. for arrival in the spring months.

LIVERPOOL, DEC. 29.

[FROM OUR OWN CORRESPONDENT.]

COTTON.—The sales last week were 21,310 bales, of which 12,000 American 7d to 11½d, 4500 Brazils 8¾d, to 13d., 1230 Egyptians 10¾d. to 16¼., 2410 East India 4d. to 7¼d. and the remainder West India, do. Towards the close of the week New Boweds fell off again a little, but since then are in good request, and now command fully the rates of this day week. The sales since Friday have averaged 3000 daily, and good prices obtained for all descriptions. The stock will be taken here on Friday, when the actual delivery for home consumption during 1836 will be ascertained; the estimated quantity is 950,000 bales, being an increase above last year's of 80,000 bales. The present prices of good cotton are, Boweds 10d. Pernams 11¾d. Egyptian 12d., and Surats 5¼. The estimated stock here is 210,000 against 190,000 at this time last year.

CORN-MARKET.—At yesterday's market a limited business was done, a portion on speculation. Wheat in good condition is scarce, and fully supports the prices of last week, but inferior samples are rather lower. New Irish flour is not a ready sale, and a reduction of 1s. 6d. per 280lbs has been submitted to. All other articles in the trade are dull, but no decided decline can be quoted here, although in the country markets of this district a greater depression has been felt. Prime English wheat, 1835 10s. 6d. per 70lbs., new 10s.; prime red Irish, 1835 9s., new 8s. 9d.; English and foreign flour 52s., Irish 50s.; Irish oats, 1835 4s. per 45lbs., 1836 3s. 8d.

CORN EXCHANGE, DECEMBER 30, 1836.

Wheat .... p. Qr. 48s to 68s	Malt ...... p. Qr. 56s to 62s	Oats ...... p. Qr. 23s to 32s
Rye .... 34s to 38s	Peas .... 36s to 42s	Bran .... 9s to 10s
Barley .... 30s to 38s	Beans .... 40s to 46s	Pollard .... 14s to 20s

AVERAGE PRICE OF GRAIN, per Quarter.

Wheat	Barley	Oats	Rye	Beans	Peas
61s. 10d.	36s. 5d.	26s. 0d.	40s. 0d.	39s. 10d.	41s. 9d.
AGGREGATE AVERAGE FOR THE LAST SIX WEEKS.					
60s. 3d.	37s. 9d.	26s. 4d.	42s. 5d.	45s. 11d.	44s. 2d.
DUTY ON FOREIGN CORN.					
26s. 8d.	6s. 4d.	7s. 9d.	6s. 6d.	2s. 0d.	3s. 6d.
Duties on Grains from British Possessions out of Europe.					
5s. 0d.	0s. 6d.	0s. 6d.	3s. 0d.	0s. 6d.	0s. 6d.

PRICES OF SEEDS.

Linseed .... 52s to 64s	Coriander Seed . 8s to 10s per Cwt.
Ditto Cake ...... 14l 0s per 1000	Clover Seed ...... red 56s to 80s do
Rapeseed .... 35l to 38l per Last	Ditto .... white 60s to 84s do.
Ditto Cake .... 6l 0s per ton	Mustard Seed, 7s to 9s per Bus.
Carraway Seed .. 43s to 47s per Cwt.	Ditto .... brown 9s to 12s do.

FLOUR, per Sack.

Town made .... 50s to 55s	Essex & Suffolk, on board .... 40s to 44s
Seconds .... 45s to 50s	Norfolk and Stockton .... 38s to 40s

SMITHFIELD, FRIDAY, DECEMBER 30.

To sink the offal—per 8lb.

Beef .... 4s. 0d. 4s. 6d. 4s. 8d.	Veal .... 0s. 0s. 0s. 0d. 5s. 4d.
Best Down & Polled Mutton .... 5s. 0d.	Pork .... 4s. 8d. 0s. 0d. 5s. 2d.

Head of Cattle this day—Beasts, 652; Sheep, 5690; Calves, 149; Pigs, 250.

Head of Cattle on Monday—Beasts, 1790, Sheep, 11,850; Calves, 15; Pigs, 275.

NEWGATE AND LEADENHALL.—By the Carcase.

Beef ...... 2s. 8d. 3s. 8d. 4s. 2d.	Veal .... 3s. 4d. 4s. 4d. 5s. 4d.
Mutton ...... 2s. 8d. 3s. 4d. 4s. 0d.	Pork .... 3s. 8d. 4s. 8d. 5s. 0d.

ROMFORD.

Oxen .... 3s. 4d. 3s. 8d.	Lambs .... 0s. 0d. 0s. 0d.
Cows and Heifer .... 2s. 0d. 3s. 0d.	Calves .... 3s. 8d. 4s. 4d.
Sheep .... 3s. 0d. 4s. 2d.	Pigs .... 3s. 8d. 4s. 4d.

BARK.

	£ s.		£ s.		£ s.		£ s.
English Oak (load)	10 0	to	10 0	Mimosa (per ton)	11 0	to	13 0
Foreign (per ton)	6 0	..	7 0	Valonia	18 0	..	21 0
New S. W.	7 0	..	11 10				

TIMBER (per load).

	£ s. d.		£ s. d.
Quebec Oak	0 0 0	to	6 0 0
Quebec Pine, red	0 0 0	..	4 15 0
Riga Fir	0 0 0	..	5 12 0
Dantzic and Memel	5 5 0	..	5 13 0

METEOROLOGICAL JOURNAL, 1836.

December.	Thermometer.	Barometer.	December.	Thermometer.	Barometer.
Thursd. 22	from 36 to 40	30,26 to 30,06	Monday 26	25 .. 32	29,61 .. 29,55
Friday 23	34 .. 39	29,79 .. 29,65	Tuesday 27	27 .. 33	29,53 .. 29,67
Saturd. 24	36 .. 35	29,69 .. 29,74	Wednes. 28	24 .. 34	29,79 .. 29,80
Sunday 25	23 .. 31	29,72 .. 29,64			

Winds N. E. Generally cloudy, except the afternoon of the 24th; rain on the morning of the 23d. A very heavy fall of snow on the mornings of the 25th and 26th, on the latter morning, accompanied by a gale which drifted the snow to an extraordinary height in many places.

Rain fallen ,1 of an inch.

Edmonton. CHARLES HENRY ADAMS.

PURCHASES OF COPPER ORES AT REDRUTH,

DECEMBER 22, 1836.

Purchasers.	Mines.	Tons.	Total.	Price. £ s. d.	Amount. £ s. d.	Total Amount.
1. ENGLISH COPPER CO.	Tresavean	82		7 2 6	584 5 0	
	....	70		11 7 0	794 10 0	
			152			1378 15 0
2. VIVIAN and SONS.	....	100		7 5 0	725 0 0	
——	Fowey Consols	50½		6 12 6	334 11 3	
——	Wheal Clifton	15		3 2 6	46 17 6	
——	Cardrew Consols	60		4 8 6	265 10 0	
——	....	29		2 16 6	81 18 6	
——	Redruth United	10		2 3 0	21 10 0	
——	North Downs	32		7 0 6	224 16 0	
——	Rose-in-Vale	14		3 15 0	52 10 0	
			310½			1752 10 3
3. FREEMAN & Co.	Tresavean	110		7 4 6	794 15 0	
	....	60		7 12 6	326 2 6	
——	Wheal Gorland	66		10 4 6	674 17 0	
——	....	25		6 2 0	152 10 0	
——	Wheal Damsel	38		6 13 0	252 14 0	
			308			2400 10 6
4. P. GRENFELL & SONS.	Tresavean	112		5 8 0	607 12 0	
	....	74		6 13 6	493 19 0	
——	Fowey Consols	50½		6 12 6	334 11 3	
——	....	100		7 7 6	737 10 0	
——	....	91		7 8 6	675 13 6	
——	Wheal Liberty	93		3 0 0	279 0 0	
——	Wheal Clifton	70		4 13 6	327 5 0	
——	....	15		3 2 6	46 17 6	
——	Redruth United	30		6 9 0	193 10 0	
——	Rose-in-Vale	14		3 15 0	52 10 0	
			649½			3748 9 3
5. NEVILL, SIMS, DRUCE, and Co.	Tresavean	63		11 6 6	713 9 6	
	West W. Liberty	8		2 2 6	17 0 0	
			71			730 9 6
6. WILLIAMS, FOSTER & Co.	Wheal Gorland	11		2 9 0	26 19 0	
	North Consols	55		2 14 0	148 10 0	
——	....	31		1 5 0	38 15 0	
			97			214 4 0
			1388			10225 9 6

PRICES OF SHARES AT LIVERPOOL.

		£ s. d.			£ s. d.
Liverpool Coal Gas		377 0 0	Bank of Manchester	25	13 15 0
Liverpool New Gas & Coke Company	£100	195 0 0	Manchester and Liverpool District Bank	15	21 5 0
Liverp. New Shares, prem.	70	153 0 0	Commercial Bank of Liver.	10	20 7 6
Liverp. & Har. W. Works		472 10 0	Liverp. Marine Assur. Co.	25	17 15 0
Bootle ditto		326 0 0	Ocean Assurance Company	10	8 2 6
Exchange Buildings		171 0 0	Northern & Central Bank of England	10	8 0 0
Liverp. & Manch. Railway	100	219 0 0	Union Bank of Liverpool	10	15 5 0
Ditto Old Quarters	25	52 10 0	Commercial Bank of Engl.	5	5 5 0
Ditto New Quarters	25	46 0 0	West Tresavean	1	1 7 6
Bolton and Leigh ditto	100	64 0 0	Kellewerris	1	1 10 0
Ditto	25	16 10 0	Lond. & Bright. (Rennie's)	3	2 0 0
Warrington & Newton do.	100	179 0 0	Ditto (Stephenson's)	5	5 7 6
Kenyon and Leigh ditto	100	120 0 0	Great Western Railway	30	42 5 0
Wigan Branch ditto	100	105 0 0	Tradesmen's Bank	5	4 7 6
Preston and Wigan North Union Line ditto	70	80 10 0	United Trades ditto	10	10 15 0
St. Helens and Runcorn Gap ditto	100	35 0 0	Woodside Ferry	17	20 5 0
Leicester & Swanning. do.	50	68 0 0	Edinburgh and Glasgow	2	4 7 6
Manchest. Bolton, & Bury Railway and Canal	48	67 10 0	Edinb. Leith, & Newhaven	1	0 15 0
Grand Junction ditto	50	154 10 0	London and Gravesend	1	1 0 0
Leeds and Selby	100	0 0 0	Royal Rock Ferry	15	9 15 0
London and Birmingh. do.	70	148 0 0	Bolivar Shares	20	
Birming. & Gloucester do.	5	5 0 0	Eastern Counties	2	1 10 0
Manchester and Leeds do.	5	12 0 0	North & South Wales Bank	5	4 0 0
North Midland ditto	10	14 5 0	British Silver Lead Comp.	2	1 10 0
Midland ditto	5	3 0 0	Wilts and Dorset Bank	5	6 0 0
Bank of Liverpool	10	26 0 0	East of England Bank	5	6 0 0
			Wh. Harmony & Montague	2	2 10 0
			Borough Bank	5	9 12 6

PRICES OF SHARES AT BIRMINGHAM.

BANKING COMPANIES.	£ s.	£ s. d.	RAILWAYS.	£ s.	£ s. d.
Birming. Banking Co.	5 0	16 10 0	Birmingham & Derby	5 0	7 5 0
Bank of Birmingham	10 0	11 15 0	Great Western	30 0	41 0 0
Birmingh. Town & Dist.	5 0	6 2 6	Bristol and Exeter	5 0	3 10 0
Birmingham Midland	5 0	5 15 0	Manchester & Liverpl.	100 0	210 0 0
Commer. Bank of Engl.	5 0	5 5 0	Lond. & Bright. (Steph.)	5 0	7 10 0
Northern and Central	10 0	10 0 0	London & Greenwich	20 0	20 0 0
National Provincial	25 0	20 0 0	London & Southampton	25 0	28 0 0
Dudley & Westbromw.	5 0	9 0 0	North Midland	10 0	14 0 0
Stourbridge & Kidderm.	5 0	12 10 0	Grand Connexion	2 10	2 0 0
Wolverhampton	5 0	10 10 0	Leeds and Manchester	5 0	10 10 0
Warwick & Leamington	5 0	8 10 0	South-Eastern	2 0	2 15 0
Derby	10 0	11 10 0	Midland Counties	5 0	2 15 0
Leicester	15 0	26 0 0	GAS COMPANIES.		
Gloucester	10 0	19 0 0	Birmingham	50 0	96 0 0
Coventry Union	5 0	7 0 0	Do. and Staffordshire	50 0	75 0 0
Coventry & Warwicksh.	5 0	13 0 0	Dudley	20 0	22 0 0
CANALS.			Wolverhampton	20 0	44 0 0
Birmingham, ⅛th share	17 10	435 0 0	Birming. Equitable Gas	1 10	1 10 0
Warwick & Birmingh.	100 0	240 0 0	MISCELLANEOUS.		
Warwick and Napton	100 0	140 0 0	Birmingh. Water Works	25 0	24 10 0
Worcester & Birmingh.	78 8	82 0 0	District Fire Office	2 0	2 5 0
Birming. & Liver. Junct.	100 0	31 0 0	Broad-street Brewery	25 0	30 0 0
Dudley	100 0	82 0 0	Old Union Mill	1 0	5 15 0
Staffords. & Worcesters.	140 0	700 0 0	New Union Mill	1 0	1 0 0
Stratford-on-Avon	79 10	30 0 0	Birmingham Fire Office	220 0	430 0 0
RAILWAYS.			Gen. Steam Navigation	13 0	25 0 0
London & Birmingham	70 0	140 0 0	Warstone-lane Brewery	5 0	4 0 0
Grand Junction	70 0	160 0 0	Droitwich Salt	25 0	12 0 0
Gloucester & Birming.	10 0	7 10 0	Birmingham Cemetery	7 0	9 0 0
Dudley & Wolverhamp.	2 10	1 17 0	Birm. Plate&Crwn Glass	3 0	2 10 0

COAL MARKET, LONDON.

DECEMBER, 1836.

QUALITY.	Mon. s. d.	Wed. s. d.	Frid. s. d.	QUALITY.	Mon. s. d.	Wed. s. d.	Frid. s. d.
Newcastle.				*Newcastle.*			
Adairs	21 9		22 9	Walls End Urpeth			21 3
Bensham	21			Walls End Walker	23		23 3
Bute's Tanfield Moor		21		*Sunderland.*			
Burdon Main	23	23	23 6	Lambton Primrose	23 9		23
East Tanfield			20	Walls End Belmont	23		23
Felling Main			21	W. E. Braddyll's Hetton	23 3		25 3
Holywell Main	22	22 6	22 3	Walls End Haswell	23		25 3
Kenton West			23	Walls End Hetton	25 3	25 3	25 3
Orde's Redheugh	19 6	20		Walls End Lambton	25 6	25 3	25 3
Pontop Windsor	20	20		Walls End Pemberton	26 6		
Russell's High Main		21		Walls End Russell's Hett.	25 3	25	
South Pontop	20			Walls End Stewart's	25 3		25 3
Tanfield Moor		23 3	23 3	*Hartlepool.*			
Townley		21	21 6	Walls End Braddyll's Het.			
West Hartley	22	22	22 6	*Stockton.*			
Willington	23 6		23 9	Walls End Barrett		25	
Wylam	24 3	24 3	24 3	W. E. Brown's Dennery St.		22	
Walls End Bewicke & Co.	23 6		24	Walls End Gordon		24 3	24 3
Walls End Brown's	22 6			Walls End Norwood Hett.			
Walls End Clark and Co.	22	22	22	Walls End South Durham	24	24	
Walls End Gosforth	24		24	Walls End Tees	25	24 9	24 9
Walls End Heaton	23 9		23 9	Walls End St. Helen's Tees	24 6	24 6	24 6
Walls End Hilda	23	23	23	Walls End West Hetton	22 6	22 3	
Walls End Hotspur	23	23	23 9	*Blyth, Scotch, Welsh and Yorkshire.*			
Walls End Killingworth	23 6	24	24	Cowpens			21 6
W.E. Lamb. Stanhope Co.	21 6			Hartley	22		22
W. E. Northumberland	23	23		Howard's Netherton Main	21		
Walls End Newmarch			23	Walls End Devonshire	22		
Walls End Peareth			19	*Traders.*			
Walls End Perkins	22 6			WallsEnd Killingworth		23 6	
Walls End Riddells	23 6						

Arrived since last week, 117 vessels.

PRICES OF STOCKS.

ENGLISH PUBLIC FUNDS.

	Saturday.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
Bank Stock, 8 per Cent.	208½	209	....	....	....	....
3 per Cent. Red. Anns.	87¾ 8⅛	88⅛	88⅛	88⅛ ¼	88⅛	88⅛ ¾
3 per Cent. Consols	....	....	....	....	....	....
3½ per Cent. Anns. 1818.	....	....	96¾	97 6¾	97¼ 6¾	98
3½ per Cent. Anns. 1726.	....	....	....	....	....	....
3½ per Cent. Red. Anns.	96¾ ¼	96¾ ¼	96¾ ¾	96¾ ¾	96¾ ¾	96¾ ¾
New 3½ per Cent. Anns.	97¾	97¾	97¾ ¾	97¾ ¾	97¾	97¾ ¾
New 5 per Cent.	....	....	....	....	....	....
Long Anns. 1860.	14¾ ¾	14¾	14¾ ¾	14¾	14¾	....
Anns. for 30 Years 1859.	....	....	....	....	....	....
Ditto 1860.	....	....	....	....	....	....
Omnium	....	....	....	....	....	....
India Stock, 10½ per Cent.	....	....	....	....	....	....
South Sea Stock, 3 per Cent.	....	....	....	....	....	....
Ditto Old Ann. 3 per Cent.	86¾	....	86	....	....	86½
Ditto New Ann. 3 per Cent.	....	....	....	....	....	....
3 per Cent. Anns. 1751	....	....	....	....	....	....
India Bonds, 4 per Cent.	11 9 pm	11 pm	9 11 pm	10 11 p	10 12 p	11 14 p
Exchequer Bills, 2¼d. £1000.	17 20	18 20	18 20	18 21	20 22	21 25
Ditto £500.	17 20	18 20	18 20	18 21	20 22	20 25
Ditto Small.	18 20	18 20	18 20	18 21	20 22	20 25
Ditto Com.	....	....	....	....	....	....
3 p. Cent. Cons. for Op. 13 Jan.	89¼ 9	89¼	89¼ ¾	89¼ ¼	89¼ ¾	89¼ ¾
India Stock for Opg. 17 Jan.	....	....	260	....	....	....

BANK OF ENGLAND.—TRANSFER BOOKS.

	SHUT.			OPEN.		
New 3½ per Cent.	Thursday,	Dec. 1,	1836.	Friday,	Jan. 13,	1837.
3 per Cent. Consols	Thursday,	Dec. 1,	..	Friday,	Jan. 13,	..
3 per Cent. 1726	Thursday,	Dec. 8,	..	Tuesday,	Jan. 10,	..
New 5 per Cent.	Tuesday,	Dec. 6,	..	Friday,	Jan. 6,	..
Annu. for Forms of Years	Wednesday,	Dec. 7,	..	Monday,	Jan. 23,	..
India Stock	Tuesday,	Dec. 6,	..	Tuesday,	Jan. 17,	..
South Sea Stock	Friday,	Dec. 2,	..	Friday,	Jan. 6,	..
3 per Cent. 1751	Thursday,	Dec. 1,	..	Saturday,	Jan. 5,	..

FOREIGN STOCKS.

	Saturday.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
Austrian, 5 per Cent.	....	....	....	....	....	....
Belgian, 5 per Cent.	....	....	....	....	....	101
Brazilian	83	....	....	....	....	....
Ditto, 1829	....	....	....	....	....	....
Buenos Ayres, 6 per Cent.	....	....	....	....	....	....
Cuba, 6 per Cent.	....	....	....	....	....	....
Chilian, 6 per Cent.	40½	....	....	....	....	....
Colombian, 6 per Cent.	....	....	....	....	....	....
Ditto, 1824, ditto	22	22	22½	22½ ¼	22¾ ¼	22½ 3¼
Danish, 3 per Cent.	....	74¾	74½	....	....	....
Dutch, 2½ per Cent.	....	....	....	....	....	....
Greek, 5 per Cent.	....	....	....	....	....	....
Ditto, 1825, 5 per Cent.	....	....	....	....	....	....
Mexican, 5 per Cent.	....	....	....	....	....	....
Ditto, deferred do.	....	....	....	....	....	....
Ditto, 1825, 6 per Cent.	22	....	22½	....	22½	....
Ditto, def. do. 6. per Cent.	....	....	....	....	....	....
Neapolitan, 5 per Cent, 1824	....	....	....	....	....	....
Peruvian, 6 per Cent.	....	....	....	....	....	....
Portuguese, 5 per Cent.	....	65	67½	....	65	65
Ditto, New 5 per Cent.	....	....	44	44¾ ¼	44½ ¼	44 3½
Ditto, 3 per Cent.	29	....	29	29¼ 8¾	29¼ 8¾	29 8
Prussian, 4 per Cent.	....	....	....	....	....	....
Russian, 1822, 5 per Cent.	108½	....	....	....	109	108½
Spanish, 5 per Cent. Consols	19½	19¼ 19	19¼	19¾ ¼	19½ ¼	19½ 18¾
Ditto, passive	5½ 2	5½	....	....	5¾	....
Ditto, deferred	....				7¾	7¾
Dutch, 2½ per Cent.	54¼ ¼	54¼ ¼	54½ ¾	54¾ ¾	54¼ ¾	54¾ ¾
Ditto, 5 per Cent.	101	....	101¼ 1	101¾ ¼	100¾ ¾	101¼ ¾

FRENCH FUNDS.

	PARIS. Dec. 22.	Dec. 24.	Dec. 26.	Dec. 27.	Dec. 0.	LONDON. Dec. 24.	Dec. 15.
5 per Cent. Ann.	107f.70c.	107f.75c.	107f.80c.	107f.60c.	....		....
Ex. on Lond. 1 mh.	25f.37½c.	25f.32½c.	25f.32½c.	25f.32½c.	....		....
ditto 3 mhs.	25f.12½c.	25f.12½c.	25f.12½c.	25f.12½c.	....		....
4½ per Cent. Ann.					....		....
Exchange					....		....
4 per Cent. Ann.	99f.20c.	99f. 10c.	99f. 20c.	99f.15c.	....		....
Exchange					....		....
3 per cent.	79f.10c.	79f. 10c.	79f.10c.	78f.90c.	....	79f.	....
Exchange					....		....
Bank Shares	2350f.	2355f.		2305f.	....	25f.50c.	....

IRISH FUNDS,

DECEMBER 28, 1836.

Bank Stock	202	Royal Canal Stock		
Government Debentures 3½ per ct.		Patriotic Insurance	10 0 0	
Ditto Stock 3½ per ct.		Provin. Bank of Ireland	25 0 0	
Ditto New 3½ per ct.	96¾	Hibernian Bank	25 0 0	
Ditto ditto, reduced 4 per ct.		Grand Canal Stock		27¾
Consols 3 per ct.		Mining Co. of Ireland	7 0 0	
City Debentures 4 per ct.		City of Dublin Steam Co.	100 0 0	110
Exchequer Bills 2d per diem		Kingstown Railway	60 0 0	

AMERICAN FUNDS.

Redeemable.	London.	America.	Redeemable.	London.	America.
New York 6 1837	88	101	Louisiana 5 1844, 7, 50, 2.		
.. 1845		109	Mississipi .. 6 1861, 6, 71		
5 1837	88	par	INCORPORATED BANKS. Per Cent.		
.. 1845	91 2	par	United States .... 7 1836.	25	115
Pennsylva. 1839, 40, 41			Louisiana State .. 9 1870.		
.. 1846			Bank of Louisiana 8 1870.		
.. 1853, 4			N. Orleans, Canal & B. Co.	20	
.. 1856			City Bank		
.. 1858			New York Life and Trust 5		
.. 1860, 62			Tenessee Planters 9	22½	98
.. 1865			Mississippi.. 10	26	119
Maryland 6 1870	104½		Exchange at New York		108½ 9
Ohio 6 1850					

COURSE OF EXCHANGE.

FRIDAY, DECEMBER 30, 1836.

	Prices printed.	Prices negotiated on 'Change.			Prices Printed.	Prices negotiated on 'Change.	
Amsterdam	12 6	12 4¾	12 5	Seville	36	—	—
Ditto at Sight	12 3	12 2	— —	Gibraltar p. h. d.	48	—	—
Rotterdam	12 6¼	12 5½	— —	Leghorn	47¼	47½	47¾
Antwerp	12 5	12 3¾	12 4	Genoa	26 5	25 92½	25 97½
Hamburgh Mcs. B.	13 13	13 11½	13 11¾	Milan	31	—	—
Altona	13 13	— —	— —	Venice,.. p. 6 A. L.	47½	—	—
Paris, 3 days' sight	25 65	25 52½	25 55	Naples	40	40½	40¾
Ditto	25 95	25 80	25 85	Palermo	121 oz	121	—
Marseilles	26	25 90	25 92½	Lisbon	53½	53¾	54
Frankfort on Main	153½	152¼	152½	Oporto	53¾	53¾	54½
Petersburg p. ruble	10	—	—	Rio Janeiro	34	—	—
Berlin .. cur. doll.	7 3	— —	—	Bahia	26	—	—
Vienna eff .... do.	10 16	10 13	10 14½	Buenos Ayres	—	—	—
Trieste ditto	10 18	10 15	10 17	Dublin	1½	—	—
Madrid	35½	35¾	—	Cork	1½	—	—
Cadiz	37	37¼	37½	Madras	—	—	—
Bilboa	36	—	—	Calcutta	—	—	—
Barcelona	36	— —	—				

PRICES OF METALS.

		£	s.	d.
COPPER, Brit.—Cake	ton	105	0	0
Tile	do.	103	0	0
Sheets	lb.	0	1	1
Bottoms	do.	0	1	2
Foreign—S. Am. (dy. 37s. cwt.) bd.	ton	0	0	0
TIN, Brit.—Blocks	cwt	4	15	0
Bars	do.	4	17	0
Plates, common to best, per box. I.C.	1 18 0 to	2	4	0
I.X.	2 4 0 ..	2	16	0
I.X.X	2 10 0 ..	2	16	0
Wasters of the above Mks. 3s. less, all others 6s. less. (Others in proportion.)				
Foreign—duty 30s. per cwt. Banca, bd.	cwt.	4	5	0
Straits, bd.	cwt.	3	15	0
Bars,.. bd.	cwt.	0	0	0
LEAD, Brit.—Pig	ton	23	10	0
Sheet	ton	24	10	0
Shot	ton	28	0	0
Red	ton	26	0	0
White (dry)	ton	32	0	0
Do. (gd. in oil)	ton	34	0	0
Litharge	ton	26	0	0
Foreign—Span. (dy. 40s. per ton).. bd.	ton	22	0	0

		£	s.	d.
IRON, Brit.—Pig, No. 1	ton	6	10	0
Bar	ton 11 5 0 to	10	15	0
Do. Carg. in Wales		10	0	0
Bolts	ton	11	5	0
Nail Rods	ton	11	15	0
Hoops	ton	13	0	0
Sheets, single	ton	15	0	0
(Others in proportion.)				
Foreign—Duty 30s. per ton. Swedes, cn. bd.	ton	14	10	0
for Steel, (var. mks.)	ton 16 0 0 to	35	0	0
Russian com.	ton	13	0	0
P.S.I.	ton	15	0	0
C.C.N.D.	ton	19	10	0
STEEL, Brit.—Blistered, (various qualit.)	ton 25 0 0 to	45	0	0
Shear do. do.	45 0 0 ..	84	0	0
Cast do. do.	45 0 0 ..	84	0	0
Foreign—Duty 20 per cent. Swedes in kgs bd	ton	18	10	0
Do. Faggots bd.	ton	19	10	0
Milan ... bd.	ton	0	0	0
SPELTER, For.—Cakes (dy. 2l. p. ton,) .. bd.	ton	19	0	0
English Sheets	0 to	36	0	0
QUICKSILVER—(dy. 1d. per lb.) bd.	lb.	0	3	8

TIDE TABLE.

HIGH WATER AT LONDON BRIDGE, from December 31 to January 6.

	Satur.	Sunday.	Mond.	Tuesd.	Wedn.	Thurs.	Friday.
Morning	7 13	8 1	8 57	10 0	11 17	— —	0 52
Afternoon	7 36	8 20	9 27	10 39	11 50	0 21	1 22

PRICES OF SHARES.

BRITISH MINES.

No. of Shares.	NAME OF COMPANY.	Amount of Share.	Amount paid.	Highest Price.	Lowest Price.	Present Price.
8,000	Albion Copper	5	3½	18s	17s	16 17s 6
4,000	Bissoe Bridge	5	4	..	..	2½ 3
8,000	Blaenavon	50	20	..	..	20
5,000	Boringdon Park	20	1½	..	..	1½
8,000	British Tin	2½	1½	⅞	⅞	⅞
20,000	British Iron	50	50	41	40	40½ 41½
6,000	British Copper	5	4	1½	1	1 1½
500	Carn Grey	10	7	4	..	1 2
100	Copper Bottom	..	15	195	180	190 200
5,000	Cornwall Great United	5	5	3½	3½	3 4
4,000	Cornwall United	10	1½	..	..	1
10,000	East Cornwall Silver	5	2½	12s	9s	9 11s
2,000	East Cornwall Tin, &c.	6	6	..	..	5 6
5,000	East Wheal Brothers	20	¼	..	¼	1 2
2,560	East Wheal Strawberry	10	4½	3	2	2½ 3
200	East Wheal Kitty	..	5½	..	..	8
4,000	English	25	12½	19	18¾	18½ 19½
10,000	Hibernian	50	10½	..	..	2 3
6,000	Hayle Consols	5	3	2½	2	2
1,000	Holmbush	100	..	10¾	10½	10 11
12,000	Kellewerris	5	1	1½	1½	1 1½
2,000	Kerrow	5	2	¾	½	10 15s
5,000	Dartmoor Consols	5	3	..	..	2 3
20,000	Mining Co. of Ireland	25	7	6½	6	6 7
4,000	New South Hooe	5	1½	15s	12s	5 7s 6
1,000	North Consolidated	20	15½	2	2	1½ 2½
8,000	North Cornwall	5	1½	12s	10s	10 12s 6
1,000	Old Moor	..	2	1	¾	1
6,000	Perran Consols	5	2½	2½	2½	2½
8,000	Polberou Consols	10	8	4	4	3½ 4½
6,000	Polbreen	5	3	2¾	2½	2½ ¾
5,000	Redmoor Consolidated	5	3½	2	1¾	1¾ 2½
10,000	Rhymney Iron	50	20	14	13	13½ 14
10,000	Redruth United	10	3	18s	16s	16 18s
10,000	Roche Rock	3	1½	¾	¾	¾ ¾
16,000	Royal Irish	..	..	..	..	..
5,000	South Wheal Leisure	5	2	1¾	1½	1½ 2
8,000	St. Hilary	2½	1	13s	12s	13 14s
5,000	Tavistock	5	2	..	..	1½ 2
6,000	Trevorgus	5	2½	1½	1½	1½ 2
5,000	Treleigh Consols	5	2½	2½	2	2¼
6,000	Tamar Consols	5	2	2	1¾	1½ 2
6,000	Tin Croft	10	6	7	6	6½ 7
4,000	United Hills	5	5	11	10½	10½ ¾
2,000	Wendron	8	8	6½	6	5 6
3,300	West Cork	50	50	..	..	10 15
5,000	Wheal Brothers	20	..	2½	2	2 3
9,000	West Wheal Brothers	5	2	1	1	1
5,000	Wh. Harm. & Montague	5	5	2	2½	3½ 4½
12,000	West Tresavean	5	2½	1½	1	1½
6,000	Wicklow Copper	5	5	9	9	9½
6,000	West Wheal Jewel	5	3	2	2	2
5,000	Wheal Gilbert	5	1½	1½	1	1½
800	Wherry Mine	15	5	5½	5½	4½ 5½
5,000	Wheal Morgan	5	2	1⅞	1¼	1¼ ¾

FOREIGN MINES.

4,000	Alten Mining Company	15	12½	14½	13½	13½ 14½
10,000	Anglo Mexican Co.	100	100	4	3½	3½ ¾
3,374	Do. Subscription	25	25	4	3	3½ 4
2,000	Bolanos	150	150	130	125	125 30
10,000	Brazilian Imperial	35	20	23	22	22 23
10,000	Bolivar	20	20	11	10	10 12
10,000	Ditto Scrip	10	8	8½	8½	8½
10,000	Cata Branca } Brazilian	..	6½	7	6¾	7 8
10,000	Conceição.. } Co.	..	2	2½	2	2 2½
10,000	Candonga Mining Co.	20	7½	7	6¾	6½ 7
12,000	Cobre Copper Company	40	40	43	43	39 41
10,000	Colombian Co. regis.	55	55	..	6	5 7
10,000	Copiapo Mining Co.	20	12½	17½	17	17 18
20,000	General Mining Association	20	15	10	9	7 8
5,734	Mexican Company	100	53½	2	½	2 3
6,000	Mocaubas and Cocaes	25	23¾	8½	8	7½ 8½
5,000	Minas Geraes	20	6	5	4	3½ 4½
2,000	New Granada	..	6	..	..	..
1,020	Penoles	12	12	..	..	—
3,060	Ditto Subscription	5	1½	..	..	—
14,582	{ Real del Monte, regis.	54½	54½	13	12	13 14
	{ Do. unregistered	54½	..	16½	16	16½ 17½
	Ditto Loan Notes	150	150	137	135	135 7½
2,500	Rio de Anori	..	3½	..	..	—
11,000	St. John d'el Rey	20	13½	2¾	2½	2½ ¾
30,000	United Mexican	40	40	2¼	2¼	2¼
	Red Scrip	.	5	2¾	2½	2½ 3
	Black New Scrip	..	5	3	3	3¼ ¾
5,000	Union Gold	..	9¾	3¼	2¾	3¼ ¾
14,000	Zacatecas Mining Co.	½	½	½	¾	1¼ ¾

RAILWAYS.

	Altona and Lubeck	..	½	..	..	—
2,500	Aylesbury	20	1	..	..	—
5,000	Birmingham and Derby	..	5	7¾	7¾	7¾
9,500	Birming. & Gloucester	..	5	9½	9½	9½
7,500	Birm. Brist. & Th. Junc.	20	1	¾	¾	¾ ½
660	Bolton and Leigh	100	100	..	..	—
	Ditto ½ Shares	25	25	..	.	—
660	Bristol and Exeter	100	5	..	..	—
600	Calcutta and Saugur	50	2	1	1	1½
500	Cant. & Whitstbl.	50	50	..	..	—
350	Cheltenham	100	100	..	..	—
7,500	Chelten. & Gt. Western	100	2½	½	½	½
14,000	Chelt. Oxford and Tring	100	5	3½	3½	3½
8,000	Clarence	100	100	50	50	50
12,000	Commercial Blackwall	50	2	¾	¾	¾ ¾
1,600	Crom. and Peak For.	100	100	..	..	—
	Dublin and Kingston	..	60	..	..	—
8,000	Dublin and Kilkenny	100	1½	2½	2½	2½
800	Durham Junction	100	10	..	..	—
7,500	Durham S. W. Junction	20	3	..	..	—
60,000	Eastern Counties	25	1	1¾	1¾	1¾
1,200	Edinburgh & Dunbar	..	2	..	..	—
5,000	Edinb. Leith & Newha.	20	1	½	½	½
13,000	Edinburgh & Glasgow	50	2	..	..	—
2,500	Forest of Dean	50	50	..	..	—
2,800	Glasgow & Falkirk Jun.	50	3	.	..	—
10,400	Grand Junction	100	50	.	..	—
	Great North of England	..	2	..	..	—
	Great Northern	100	2	43½	40½	40½ 43½
25,000	Great Western	100	20	45	43	43 45
2,000	Hartlepool	100	100	..	..	—
3,500	Huddersfield and Leeds	..	2	..	..	—
8,000	Hull and Selby	50	5	3	3	3
250	Ken. & Leigh Junction	100	100	..	..	—
40,000	Kent Railway	50	2	1¾	1¾	1¾
2,100	Leeds and Selby	100	..	..	..	—
1,500	Leicester and Swaning.	50	50	..	..	—
5,100	Liverpool & Manchester	100	100	..	..	—
5,100	Do. ½ Shares	25	25	..	.	—
6,375	New Do.	25	25	..	..	—
12,000	London and Blackwall	50	3	1	½	1½
20,000	London and Greenwich	20	20	20½	19½	19½ 20½
	Ditto Bonds	.	..	9½	9	9½
25,000	London and Birmingh.	100	60	139	138	138½ 9
7,000	London and Croydon	9¾	13	9¾	9½	9½ ¾
20,000	London & Southampton	50	25	23	22	23 22
45,000	Lond. & Brigh. (Gibbs')	20	1	½	½	½
10,000	Do. (Stephenson's)	100	5	8	7½	7½ 8
16,000	Do. (Rennie's)	50	2	2	1½	2 1½
8,000	Do. (Cundy's)	100	3	1½	1½	1¾ ¾
12,000	London Grand Junction	50	2	1½	1½	1½
2,006	Llanelly	..	15	..	..	—
14,000	Manchester and Chester	..	2½	..	..	—
10,000	Manchester and Leeds	100	5	12	12	12
10,000	Manchest. South Union	100	2	4½	4½	4½ ½
1,000	Manchester & Oldham	100	3	..	..	—
6,000	Midland Counties	50	5	3	3	3
	Margate and Ramsgate	..	2	..	..	—
3,000	Newcastle and Carlisle	100	100	..	..	—
12,000	North Midland	..	5	16½	15¾	15¾ 16½
	Northern and Eastern	100	3	2	1¾	2 1¾
600	Preston and Longridge	..	2	..	..	—
2,600	Preston and Wyre	50	8	..	..	—
2,500	Preston and Wigan	..	20	..	..	—
3,762	Severn and Wye	.	..	21	21	21
1,500	Stanhope and Tyne	100	100	..	..	105 7½
1,000	Stockton & Darlington	100	100	..	..	—
3,000	South Durham	50	2½	½	½	½
4,000	Sheffield & Rotherham	25	6	..	..	—
28,000	South Eastern & Dover	..	2	2½	2½	2½ ¾
	South Midland	50	1	½	½	½
40,000	South Western (Steph.)	50	1	½	½	½
24,000	S. Brig. Lewis & Newh.	50	2	..	..	2½ ¾
9,000	Thames Haven	50	2½	1	¾	¾ 1
6,600	Victoria	25	1	½	½	½
5,300	Warrington & Newton	100	100	..	..	—
6,000	York & North Midland	50	1	3	2¾	2¾ 3

PRICES OF SHARES.

MISCELLANEOUS.

No. of Shares.	NAME OF COMPANY.	Amount of Share.	Amount paid.	Highest Price.	Lowest Price.	Present price.
10,000	Anglo Mexican Mint	10	10	9	9	9
	Anti Dry Rot	..	..	12½	12½	12½
10,000	Australian Agricultur.	100	26½	37	37	37
1,080	Auction Mart	50	50	..	..	—
8,600	Brit. Rock & Patent Salt	50	35	..	..	—
	British Annuity	50	50	..	..	—
	British Alkali	..	36	36	36	36
6,000	Brit. Americ. Land Co.	..	18	13	13	13
20,000	Brit. Agricu. Loan Co.	105	5	..	..	—
10,000	Canada Company	100	23	34	34	34
200,000	Upper Canada Bonds	..	..	95	95	95
	Carron Iron Company	250	..	..	..	—
	City Bonds, 4 per cent.	..	..	101	101	101
	Central America (Land)	30	20	..	..	10½
75	Covent Garden Th. Rnt	500	..	..	..	—
5,000	Droitwich Patent Salt	25	..	..	..	—
300	Drury Lane do.	500	..	..	..	—
2,122	Do. Proprietors	100	..	..	..	—
10,000	Edinbur. & Leith Glass	..	16	..	..	—
2,500	Essex Marine Salt	20	6	..	..	—
1,000	Equitable Discount So.	100	10	18	18	18
15,000	General Steam Navig.	15	13	26¾	26¾	26¾
	Hudson's Bay Stock	..	..	..	..	—
2,100	Hungerford Market	100	..	23	23	23
10,000	Irish Waste Land Co.	50	1	..	..	—
2,000	Lon. Cm. Sal. Rms.	75	..	..	..	—
8,000	Lond. Rever. Inter. So.	50	5	6	6	6
1,800	London Corn Exchan.	..	..	25	25	25
	Mexican South Amer.	50	5	6¾	6¾	6¾
	New Corn Ex.	..	..	..	..	—
	New Brunswick (Land)	..	28	18	..	18
	Mexican, &c.	..	5	6¾	..	—
12,000	Patent Purif. Sea Water	10	4	..	..	—
10,000	Rio Doce	25	2	¾	¾	¾
2,754	Rever. Interest Society	100	100	130	130	130
2,633	Ditto New	100	60	80½	80½	80½
220	S. Devon Shipping Co.	50	50	..	..	—
2,000	Shotts Iron Foundry	..	38	..	..	—
10,000	South Australian	50	5	..	..	5½
4,000	Thames Tunnel	50	50	..	..	—
10,000	Van Dieman's Land	100	17	13½	13½	13½

CANALS.

No. of Shares.	NAME OF COMPANY.	Amount of Share.	Amount Paid.	Price.	Dividend per Ann.	Next Dividend Payable.
1,760	Ashton and Oldham	98	98	142	8	Sept.
1,482	Ashby-de-la-Zouch	113	113	65	4	Oct.
720	Barnsley	160	160	244	15	Jan.
1,260	Basingstoke	100	100	5½	..	—
1,005	Brecknock & Abergav.	150	150	100	5	Jan.
8,000	Birming. 1-16th Share	79½	79½	217	9½	Dec.
4,000	Do. & Liverpool Junct.	125	100	32½	..	—
477	Bolton and Bury	250	250	..	6	Jan.
600	Bridgwater & Taunton	100	100	..	..	—
400	Chelmer & Blackwater	100	100	102	4	Jan.
16,000	Carlisle	..	21½	..	..	
500	Coventry	100	100	725	18	Nov.
1,500	Chesterfield	..	..	..	..	
460	Cromford	100	100	300	1.	Jan.
4,546	Croydon	31½	31½	..	..	—
11,810	Do. Bonds	..	..	..	5	Oct.
20,000	Danube and Mayne	41½	17½	11½	..	
2,060¾	Dudley	100	100	..	4	Sept.
600	Derby	100	100	120	7	Jan.
	Edinb. & Glasgow Un.	..	50	..	..	—
	Do. Allocated	..	96	..	..	—
3,575¾	Ellesmere & Chester	133	133	80	3	Sept.
231	Erewash	100	100	500	40	Oct.
1,297	Forth and Clyde	400	400	605	25	Jan.
11,000	Grand Junction	100	100	215	12	Dec.
2,849½	Grand Union	100	10	24½	1	Oct.
1,521	Grand Surrey	100	100	..	..	Sept.
120,000	Do. (optional) Loan	100	100	70	4	Dec.
3,096	Grand Western	100	100	..	..	—
600	Glamorganshire	172½	172½	230	13½	Sept.
1,960	Gloucester & Berkley	100	100	..	..	
269	Do. (optional) Notes	60	60	..	..	
749	Grantham	150	150	202	10	May
6,238	Huddersfield	57½	57½	34½	1½	Sept.
100	Kensington	100	100	10	..	—
25,328	Kennet and Avon	40	40	22	1¼	Sept.
11,699¼	Lancaster	47½	47½	22½	1½	Mar.
2,897¾	Leeds and Liverpool	100	100	530	20	Nov.
18¾	Leeds & Liverpl. New	80	..	..	16	My N
545	Leicester	140	140	190	12	Jan.
1,897	Leicester & Northam.	83½	83½	77	4½	Dec.
550	Lisk. and Looe Un.	25	25	..	..	—
70	Loughborough	142¾	142¾	1250	11	Jan.
	Manches., Bol. & Bury	..	48	..	..	—
2,409	Monmouthshire	100	100	200	10	Dec.
700	Montgomeryshire	100	100	100	4	Aug.
250	Melton Mowbray	100	200	200	16	July
500	Mersey and Irwell	100	100	580	25	Oct.
8,000	Macclesfield	100	100	54	1½	—
247	Neath	100	100	325	17	July
100	Nene Navig. Bds.	100	100	..	..	—
1,786	Oxford	100	100	580	30	Sept.
521	Oakham	130	130	38	2	Dec.
2,400	Peak Forest	78	78	104	5	Dec.
2,520	Portsmouth & Arundel	50	50	..	..	—
21,418	Regent's (or London)	33	33	16	12s	July
5,669	Rochdale	85	85	121	6	May
500	Shropshire	125	125	140	8	Dec.
800	Somerset Coal	150	150	153	9½	Dec.
45,000	Do. Lock Fund Stock	12½	12½	11½	4½	Dec.
700	Stafford. & Worcester	140	140	730	40	Jan.
500	Shrewsbury	125	125	243	9	Nov.
300	Stourbridge	145	145	263	8	Jan.
3,647	Stratford-on-Avon	79½	79½	50	2	Aug.
200	Stroudwater	150	150	..	24	Nov.
533	Swansea	100	100	220	12	Nov.
3,762	Severn & Wye & Railw.	35	35	19½	1	Sept.
1,300	Thames & Severn blk.	100	100	25	1½	June
1,150	Do. Do. red.	100	100	32½	1½	June
2,600¼	Trent & Mersey ¼ Sh.	100	100	560	32½	June
350	Tavistock (mineral)	100	100	..	2	Mar.
8,149	Thames and Medway	19½	19½	2	..	
3,344	Do. New	.	..	..	..	
	Thames & Isis	..	..	..	..	
1,000	1,000½ Warwick & Bir.	100	100	260	15	Nov.
980	Warwick and Napton	100	100	138½	12	Nov.
6,000	Worcester & Birming.	78	78	82	4	Feb.
5,000	Wilts and Berks	67½	67½	21	1½	May
800	Wyrley and Essington	125	125	75	3	Jan.
126	Wisbeach	105	105	45	..	—
905	Wey and Arun	110	110	22½	1	May.

ASSURANCE COMPANIES.

2,000	Albion	500	50	79	3½	Dec.
50,000	Alliance Brit. & Forei.	100	10¾	11¾	5	Oct.
50,000	Do. Marine	100	5	5½	6	Jan.
24,000	Atlas	50	5	13½	¾	July
12,000½	Birminghm Fire	250	55	105	5	May
20,000	British Fire	250	50	40	4	Sep.
12,000	British Comercial	50	5	6¼	6	Dec.
5,000	Cler. Med. & Gen. Life	100	2½	3½	5	Aug.
4,000	County	100	10	42	2½	Dec.
40,000	Eagle	50	5	6	5	Oct.
200	Economic Life	1000	250	375	5s6	Jan.
50,000	Edinburgh Life	..	10	..	..	—
2,271	European Life	20	20	22	1½	Jan.
50,000	Ditto New	20	2	2	2	Jan.
1,000,000	Globe ... Stock	100	100	155	7	Dec.
20,000	Guardian	100	27½	32	5	July
7,500	Hercules	..	10	13½	..	—
40,000	Hope	50	5	5½	6s6	Sep.
2,400	Imperial Fire	500	50	125	5½	Dec.
7,500	Imperial Life	100	10	9¾	9s	June
13,456	Indemnity Marine	100	5¾	16¼	5½	Aug.
100,000	Insurance Co. of Scot.	—	10	..	..	—
2,020	Kent Fire	50	50	92	3½	Feb.
	Do. Life	..	..	79	3	—
10,000	Law Life	100	10	28	16s	April
	Liverp. Marine Assur.	..	25	..	..	—
3,900	London, Fire	25	12½	15½	1	Sep.
31,000	London, Ship	25	12½	15½	1	Sep.
50,000	North British	..	10	15½	..	—
31,000	National Life	..	..	..	8	July
30,000	Palladium Life	50	2	2¼	5	Jan.
50,000	Protector Life	..	1	18s6	..	—
2,600	Provident Life	100	10	20	1	June
100,000	Rock Life	20	2	6	5	Oct.
689,220	Royal Exchan. Stock	.	.	220	5	Dec.
250,000	Scottish Union	..	1	1½	..	—
	Sun	..	..	..	..	—
5,000	Universal Life	100	5	6½	5	May
1,500	Union	..	20	..	..	—
6,000	University Life	100	5	5½	5	July
80,000	United Kingdom Life	20	2	..	4	Jan.
50	Westminster Life	1000	1000	..	..	—
600	West of Scotland	..	10	..	..	—

PRICES OF SHARES.

JOINT STOCK BANKS.

No. of Shares.	NAME OF COMPANY.	Amount of Share.	Amount paid.	Price.	Dividend.
25,000	Agric. & Com. of Irel.	25	10	..	..
5,000	Australasia	40	40		
1,500,000	Bank of Scotland	..	82½	20,	
10,000	Bank of Birminghm.	50	10	..	
10,000	Birmingham Bank	50	9	..	
500,000	British Linen Co.	100	100	..	
	British North Amer.	..	10	8½	..
3,000,000	Commercial	100	100	183	..
	Colonial	100	10	8¾ 9	..
3,000	Equitable Loan Co.	..	9	10	..
10,000	Foreign Banking Co	.	3	9	..
2,000,000	Glasgow Union	50	50	65	..
10,000	Gloucestershire	50	10	..	10
5,000	Halifax	..	5	..	..
6,000	Hampshire	50	5	..	10
5,000	Huddersfield	..	20	..	..
10,000	Hibernian	100	25	.	4
3,000	Devon & Cor. Bg. Co.	..	20	36	..
18,000	London & Westmins.	100	20	20	4
3,000	Lancaster	100	20	.	4
25,000	Liverpool	100	10	..	6
50,000	Manch. & Liver. Dis.	100	15	..	6
20,000	Manchester	100	25	..	7
25,000	Monm. & Glamorg.	20	5	10	6
20,000	North & South Wales	20	2½	..	7
5,000,000	National Scotland	..	10	15½	..
20,000	Natl. Bank of Ireland	50	12½	13	5
10,000	Nat. Provincl. Engl.	100	25	21½	5
1,0000	Nor. & Cnt. B. of Eng.	10	10	..	5
20,000	Prov. Bk. of Ireland	100	25	42	8
4,000	Ditto New	10	10	17	8
2,000,000	Royal of Scotland	.	100	..	..
	South African	..	6	6	7½
4,000,000	Western of Scotland	..	30	..	..
	W. of Eng. & S.W. Dis	20	10	..	..
20,008	Wilts and Dorset	15	7½	9½	..

GAS LIGHT AND COKE COMPANIES.

10,000	Alliance	10	3	3	..
2,500	Bath	20	16	24	1½
600	Bradford	25	..	..	10
5,000	British	40	16	22½	5
5,000	Do. Provincial	20	19	23	..
928	Birmingham	50	50	105	5½
2,400	Birm. & Staffordshire	50	50	92	4
600	Brentford	50	..	30	4
4,250	Bristol	20	..	..	2
1,500	Brighton	20	20	13	3½
750	Do. New	20	18	12	3½
2,471	Brighton, General	20	20	19	4½
363	Carlisle	25	..	..	..
4,000	Continental Consolidat.	100	62½	95	4
240	Canterbury	50	50	60	6
	Chelmsford	50	50	42	4
300	Cheltenham	50	50	75	8
1,000	City of London	100	100	180	10
1,000	Do. New	100	60	112	6
800	Coventry	25	25	25	..
200	Derby	50	50	..	..
180	Dover	50	50	..	..
600	Dudley	20	20	20	5
4,500	Edinburgh Coal Gas	25	25	..	..
	Edinburgh and Alloa	..	14	..	..
240	Exeter	50	50	..	..
4,000	Equitable	50	45	36	4½
10,000	European	20	5	..	..
4,450	Glasgow	25	..	60	..
20,000	Greenwich Railw. Gas	..	½	..	..
10,000	Imperial	50	50	42	5
85,000	Do. Bonds	100	100	99	4
1,200	Ipswich	..	10	..	..
800	Isle of Thanet	25	20	20	5
2,350	Independent	30	30	50	6
240	Leicester	50	50	..	..
750	Leith Coal Gas	20	20	37	..
500	Liverpool	242½	242½	310	22
	Do. N. Gas and Coke	100	100	..	..
	Do. (New Do.)	..	60	..	..
200	Maidstone	50	50	100	9
9,000	Phœnix	50	39	21	3
579	Portsea	..	53	..	..
304	Poplar	50	50	..	..
1,000	Ratcliff	100	80	..	4
480	Rochdale	..	15	..	..
4,000	South Metropolitan	50	19	19	..
1,600	Sheffield	..	16½	..	..
1,000	Shrewsbury	..	10	..	..
120	Swansea	50	50	..	..
8,200	United General	50	46	31½	5
240	Warwick	50	50	50	5
400	Wakefield	25	25	22½	1½
750	Warrington	20	20	22½	5
12,000	Westminster Chartered	50	50	50½	3
6,000	Ditto New	50	10	10	12s
200	Worthing	50	50	..	5
800	Yarmouth				

DOCKS.

2,001	Commercial	100	100	56	3
498,667	East India .... Stock	100	100	112	6
124,666	Ditto Additional	..	..	..	4
1,038	East Country	100	100	7	..
3,238,310	London .... Stock	..	..	56	2½
	Ditto Bonds	..	..	..	..
1,380,000	West India .... Stock	..	..	106	5
2,209	Bristol	147½	147½	88½	2/19
65,324	Ditto Notes	..	..	115	5
570	Folkestone Harbour	50	50	..	..
15,000	Ditto Bonds	..	..	..	5
1,352,752	St. Katharine .. Stock	100	100	87½	4
500,000	Ditto Bonds	..	..	101½	4½
200,000	Do. Bonds for 10 years	..	..	101½	4
	Shoreham Harbour	..	..	..	..
2,500	Deptford Pier	20	3	..	..
1,000	Herne Bay Pier	..	..	..	..

BRIDGES.

1,600	Hammersmith	50	50	20	10s
6,000	Metropolit. Suspension	30	2	..	..
7,231	Southwark w. new sub.	63½	63½	2	..
1,700	Do. New of 7½ per cent.	50	50	14	2
6,000	Vauxhall	70½	70½	16½	17s
5,000	Waterloo	100	100	4	..
5,000	Do. old Annuities of 8l.	60	60	18	18s 8
5,000	Do. new do. of 7l.	40	40	15	16s 4
60,000	Ditto Bonds	..	..	118	5

WATER WORKS.

4,800	Birmingham	25	25	22½	9s
121	Colchester	100	100	..	..
4,433	East London	100	100	136½	6
4,000	Glasgow	50	50	..	..
4,500	Grand Junction	41¾	41¾	51½	2½
5,400	Edinburgh Joint Stock	25	25	..	..
2,000	Kent	100	100	45	2
388	Liverpool Bootle	220	220	305	10
1,500	New River Lond. Bridge Water Annuities	..	..	58	2½
6,486	Manchester & Salford	100	100	53	1½
800	Portsea Island	50	50	..	..
1,497	Portsmouth & Farlington	50	50	1	..
372	Do. New	50	50	24	1
8,000	Ramsgate	10	8	10	..
1,000	Vauxhall, late So. Lond.	100	100	83	4
8,300	West Middlesex	63¾	63¾	80	3
1,360	York Building Co. L. P.	100	100	35	1/14

ROADS.

533	Archw. and Kent Tn.	30	30	..	18s
300	Barking	100	100	22½	1½
1,000	Commercial	100	100	90	5
2,000	Do. East India Dock Br.	100	100	59	..
492	Great Dover Str.	..	70	29	2/16
2,393	Highgate Archway	..	30/8	2	..
11,602½	New North Rd. Stock	100	100	..	..

LITERARY INSTITUTIONS.

400	Adelaide Gal. of Science	50	..	..	..
1,000	London, w. Bronze Tick.	78¾	78¾	20½	..
1,500	London University	100	100	23½	..
700	Russell	26¼	26¼	8	..
	King's College	100	100	32	..

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GEOLOGICAL SOCIETY OF LONDON.

ADDRESS OF THE PRESIDENT AT THE ANNIVERSARY MEETING.

(Continued from No. 42.)

Freyer, to whom I have before alluded, states, that he observed in parts of Peru, especially near Arica and in the Isle of San Lorenzo, in the bay of Callao, lines of shingle and sand, with shells of existing species, at various elevations above the level of the sea. The rocks of sandstone and conglomerate south of the bold promontory called the Morro of Arica, are shaped into distinct terraces towards the shore, and on these terraces the rock, wherever it is exposed, is seen to be incrusted with balani and millepores. At the height of about twenty or thirty feet above the sea, these shells and corallites are abundant, and almost as perfect as on the shore; at upwards of 1000 feet they still occur, but in an injured state; for although there is no rain in this district to hasten their decay, by alternate moisture and desiccation, still they are abraded by the sand which is constantly blown over them. Some of the recent shells, occurring at considerable heights in the island of San Lorenzo, retain their colour almost as freshly as those living in the adjacent sea. Mr. Darwin has also observed, in different parts of Patagonia and Chili, beds of recent shells at various heights above the sea, and he found them mussels which retained their blue colour, and emit a strong animal odour when thrown into the fire.

I will now turn from the modern changes observed in South America to the evidences of recent alterations in the level of the land in high latitudes of the northern hemisphere. Dr. Pingel, a Danish mineralogist and naturalist, has communicated some facts, showing the gradual sinking of part of the west coast of Greenland. It is now more than fifty years since Arctander inferred that this coast had subsided, having noticed some buildings in the Firth, called Igalliko, on a low rocky island near the shore, almost entirely submerged at spring tides. From this point, which is in lat. 60° 43′ north to Disco bay, extending to nearly the 69th degree of north latitude, Dr. Pingel has traced various signs of the depression of the land, in the settlements of the Greenlanders and Moravians being now overflowed by the sea. In one case the Moravians were obliged to move inland the poles on which their large boats were set, and the old poles still remain beneath the water as silent witnesses of the change. It is also mentioned, that no longer does a Greenlander builds his hut near the water's-edge. Having conversed with Dr. Pingel, at Copenhagen, on this subject, I am convinced that the phenomena cannot be explained away by reference to a rise of the land at particular points, the advance of the sea being general for more than 60 miles from north to south, and caused not by the undermining of cliffs and the denudation of land, but by submergence of what was before dry water.

I am the less inclined to question the probability of a general subsidence of the land in Greenland, because I now believe that an equally slow and gradual movement is taking place, but in an opposite direction, throughout a great part of Sweden and Finland. I ventured formerly to controvert the views adduced in favour of such an upheaval of land in those countries, viz. the fact had been advocated by Celsius, the Swede, and in later times by Playfair and Von Buch. But after visiting, in 1834, several parts of the eastern and western coasts of Sweden, I became satisfied that the elevation is in progress, more rapid at Stockholm than further to the north and greater at Gefle than at Stockholm. The rate of rise appears in some places to have amounted only to a few inches in a century, in other places to several feet; but, as far as I could learn from the report of pilots, boatmen, fishermen, and traders, the alteration extends to the North Cape, and is probably felt over a space more than 1000 miles in length from north to south, and several hundred miles in breadth. The evidence is derived from many sources, partly from tradition, and from the recollection of the old inhabitants and seafaring men—partly from the position of ancient buildings on the coast, and partly from marks chiselled at different periods on rocks bordering the sea, for the express purpose of indicating the ancient and actual level of the waters. As the details of my own observations have been published in the Philosophical Transactions of last year,* I need only state that at one spot to the south of Stockholm, I saw what appeared to me conclusive proof of an alternate rising and sinking of the same land after this region was inhabited by man; first, a depression of the ground at least fifty feet below its former level, and then a re-elevation of the whole amounting to at least fifty feet.

The probable cause of the prolonged and insensible movements of large tracts of land opens a wide and inviting field for speculation. As we know that volcanic action is never dormant in some parts of the interior of the globe, it seems most natural to imagine that an alternate expansion and contraction of the earth's crust may arise from a gradual increase or diminution of its temperature. Mr. Babbage has suggested that as many different kinds of stone have been shown by experiment to augment in volume when heated, and decrease in bulk when slowly cooled, a great thickness of subjacent rock may cause the surface to rise or sink, according to the variations experienced in the subterranean temperature. We have also to consider the effects which might result from the slow cooling and crystallization of large reservoirs of melted matter, on which subject we have unfortunately as yet few experiments to guide our conjectures. We know not, for example, whether the passage from a fluid to a solid state would uplift the ground above an incumbent mass of rock. A dense fluid, subjected to immense pressure, may, perhaps, on crystallizing into a rock like granite, occupy more space in its state of solidity. I need not remind you that as ice floats in water, so a bar of cast iron floats on the surface of melted iron.

These, however obscure the origin of the movements in question, their existence, if admitted, affords a key to the interpretation of a variety of geological appearances, some of which I shall now proceed to consider.

Mr. Beck has mentioned that the oldest strata in Denmark are often covered by deposits of gravel, sand, and loam, several hundred feet thick, in valleys, but more commonly upon them, lie erratic blocks. The sand and gravel beds rarely contain any fossils, but when shells do occur, they are absolutely identical with living species. He has also found, in the lower valleys of the land, more than seventy species of shells now living in the German ocean.

These facts agree precisely with others which I observed in different parts of Sweden, and which I have described in the memoir before alluded to. On the west coast, between Uddevalla and Gothenberg, the beds of sand, gravel, and clay, containing recent oceanic shells, are seen at various heights, from 100 to 300 feet above the sea. M. Alexander Brongniart formerly pointed out those which rest on the gneiss, near Uddevalla, and like him, I saw balani still attached to the rocks at the height of more than 150 feet above the sea-level. I ought, however, to state, that at the spot where I discovered them they had not been exposed to decomposition by the atmosphere ever since their emergence. On the contrary, the adhering shells had been protected by a covering of shelly sand, only removed a few years for road-making. I need scarcely insist upon the obvious inference that the balani and corallines, which also cover the rocks, and which are of the same species as those found on the shells of the recent animals in contact with the rocks, prove that the gneiss was long submerged beneath the waters, and that the shells were not washed up by an inroad of the sea upon the land. In the island of Orust, opposite Uddevalla, I found the same appearances, and on other parts of the western coast; but on the eastern shores of Sweden, or those bordering the Baltic, both to the north and south of Stockholm, a marked distinction is recognised. In the associations of fossil shells, which there occur in beds of upraised gravel, sand, and clay, the testacea belong to recent species; yet not to that assemblage which inhabits the ocean, but to a confined number of mixed fresh water and marine species, characteristic of the brackish waters of the Baltic. Such beds rise near Stockholm to the height of 200 feet above the sea, and prove that the relative level of land and sea has greatly changed, not only since the existing testacea were in being, but also since the Baltic was disjoined from the ocean as an inland sea, freshened by a superabundance of fresh water.

It is well known that these parts of Sweden are densely strewed over with large erratic blocks, many of the largest of which occur in the highest of those ridges of sand and gravel, finely stratified or made up of a continued succession of thin layers of sand, loam, and gravel. In one of these ridges, at Oregrund, I found layers of marl, containing perfect shells of recent species, which live in the Baltic. The ridge was about 100 feet high, and on the summit of it were blocks of gneiss and granite, measuring from eight to ten feet in length. I saw similar boulders, but inferior in size, overlying extensive deposits of recent shells in Orust and Uddevalla.† Hence it is evident that the transportation of these rocky fragments into their present position continued after the period when the modern shelly formations of both the coasts of Sweden were accumulated.

In addition to the facts enumerated in my paper on Sweden in the Philosophical Transactions for 1835, in regard to the agency of ice-islands, I mention a fact observed by Dr. Beck on the coast of Jutland. He has observed that on the breaking up of the fringe of ice which encircles the shore during winter, small islands of ice float off and carry with them small gravel from the beach, but stones four feet in diameter firmly attached to the solid mass. These ice-floes are sometimes driven eastward into the Cattegat, and have been known to stop up the narrow part of the Sound of the Great Belt, and to cause new reefs of rocks thus transported, on which vessels (and a few years ago a Danish man-of-war) have been stranded. If such power can be exerted by ice-islands, only a few hundred feet in diameter, in latitudes corresponding to those of England, we may be prepared to find that islands, several leagues in circumference, may carry blocks of the magnitude of small houses.

Captain Bayfield, in commenting on the inferences which I had drawn as to the transporting power of ice in the Baltic, communicated to me several analogous facts, observed by him both on the lakes of Canada and in the

* Edinb. and Edinb. Phil. Mag. vol. vi. p. 295. † Phil. Trans. 1835, p. 39.

St. Lawrence. In the river last mentioned, the loose ice, when the water is low in winter, accumulates on the shoals, the separate fragments being readily frozen together into solid masses in a climate where the temperature is sometimes 30° below zero. In this ice boulders become entangled, and in the spring, when the river rises after the melting of the snow, the packs are floated off, frequently conveying away the boulders to great distances. Heavy anchors of ships lying on the shore have, in like manner, been closed in and removed. He also states, that immense ice-islands, detached far to the north, perhaps in Baffin's Bay, are brought by the current in great numbers down the coast of Labrador every year, and are frequently carried through the Straits of Belleisle, between Newfoundland and the continent of America, which, after passing through the Straits, sometimes float for several hundred miles to the south-west up the Gulf of St. Lawrence. In one of these icebergs, which Captain Bayfield examined, he found heaps of boulders, gravel, and stones; and he saw other ice-floes discoloured by mud. Capt. Belcher also informs us, that in 1815, when in his Majesty's ship Bellerophon, he fell in with field-ice off Newfoundland, near St. John's Harbour, in which there were muddy streaks, gravel, and even stones: it was in the heat of summer, and torrents of water were shooting off the ice. The importance of these phenomena will be duly appreciated by the geologist who reflects that they relate to the annual transportation of rocks from high latitudes, probably corresponding to those of the northern parts of Norway and Sweden; and that the points sometimes reached by the ice are further south than any part of Great Britain. It is therefore by no means necessary to speculate on the former existence of a climate more severe than that now prevailing in the western hemisphere, in order to explain how the travelled masses in northern Europe may have been borne along by ice. We know from independent evidence that large parts of the lands bordering the Baltic, and now strewed over with erratics, have constituted the bed of the sea at a comparatively modern period.

It may be asked whether I refer all erratics, even those of Switzerland and the Jura, to the carrying power of ice. In regard to those of Switzerland, I have elsewhere endeavoured to show, that a combination of local causes might have contributed to their transfer; for repeated shocks of earthquakes may have thrown down rocky fragments upon glaciers, causing at the same time avalanches of snow and ice, by which narrow gorges would be choked up, and deep Alpine valleys, such as Chamouni, converted into lakes. In these lakes, portions of the fissured glaciers, with huge incumbent or included rocks, might float off, and on the escape of the lake, after the melting of the temporary barrier of snow, they might be swept down into the lower country.*

M. Charpentier has lately proposed another theory, which he informs us is merely a development of one first advanced by M. Venetz. The Alpine blocks, according to these writers, were not carried by water, for had that been the case the largest would be either in the Alpine valleys, or near the base of the great chain, and we should find their size and number diminish as we receded from their original point of departure. But the fact is otherwise; many of the blocks on the Jura, or those farthest removed from the starting-place, being of the largest dimensions. They suppose, therefore, in accordance with the opinion of M. de Beaumont and others, that the elevation of the Alps occurred at a comparatively modern epoch, and that when these mountains were first upheaved they were more lofty than now, and more deeply covered with snow and glaciers. After the principal movement had ceased, a lowering of the Alps took place, the dislocated and shattered beds requiring time to settle down into their present more solid and stable form. According to this hypothesis, therefore, the erratic blocks are monuments of the greater magnitude and extent of the ancient glaciers, under a different configuration of the surface. I have not space for all the ingenious arguments adduced, after a minute examination of the ground by M. Charpentier, in support of this theory, but must refer you to the original memoir.†

Before leaving this subject I may observe, that although it is rare, in modern times, to meet with icebergs in the northern hemisphere so far south as the Azores, in north latitude 42°, yet they have been seen there, and not unfrequently in north lat. 44°, within the present century, thus reaching the parallel of Southern Italy and Central Spain. In the southern hemisphere we learn from Captain Horsburgh that some large ones were carried, in 1828, still nearer the equator as far as lat. 35° south, or within about forty miles of the Cape of Good Hope. I do not remember, when examining alluvial deposits, to have seen any blocks in Sicily nor in Italy till I approached the foot of the Alps; and in Sweden I found them increasing in number and size as I advanced northwards, where I saw some between thirty and forty feet in diameter. The erratics, therefore, as far as my experience extends, are a northern phenomenon; and M. Charpentier states, on the authority of Humboldt, that there are no such fragments at the eastern foot of the equatorial Andes, where, notwithstanding the altitude of the mountains, there are no glaciers.

But assuming that ice could have transported into their present position those myriads of angular blocks which cover the low countries bordering the Baltic, in what manner and by what force could these masses have been detached from the mountains of which they once formed a part? Now the granitic rocks in Sweden sometimes consist of large tabular masses, traversed by numerous horizontal and vertical joints; and entire hills may be said to be broken up, *in situ*, into blocks of the same forms and dimensions as the erratics of the Baltic. I remarked this particularly in Ostrogothland, near Lake Roxen. Whether this fissuring of the rocks has been due to earthquakes, or the expansive power of ice in northern regions, or to what other causes, I cannot pretend to describe; but reefs of such jointed rocks before they emerged from the sea might have afforded an inexhaustible supply of detached fragments, over and around which the ice would freeze in winter. One block after another might be buoyed up and floated off on the rise of the Baltic when the snows melted, or of the ocean during high tides.

It has been suggested that large blocks may have been pushed far over the bed of the sea and over the land by a succession of waves raised by earthquakes or by hurricanes. Without denying that such agency may explain some facts in geology, I may remark that we cannot be too much on our guard against assuming violent catastrophes where the effects may have been brought about tranquilly, and even with extreme slowness. Let us imagine, for example, a sunken reef of granite in Baffin's Bay, in about 75° north lat., divided into fragmentary masses as above described, and these masses becoming year after year involved in packed ice. In a few months they may be drifted more than 1500 miles to the southward, through the Straits of Belleisle, to the 48° north lat., the ice moving perhaps at a slow rate—no more than a mile an hour. We might even land upon such ice-fields, and be unable to determine whether they were in motion or not. After a repetition of these operations for thousands of years, the uneven bed of the ocean far to the south may be strewed over with drift fragments which have either stranded on shoals or have dropped down from melting bergs. Suppose the floor of the ocean where they alight to be on the rise as gradually as the bottom of the Baltic in our own times. The change may be so insensible that pilots may suspect, and yet scarcely dare to insist upon the fact till its reality is confirmed by the experience of centuries. At length a submarine ridge, covered with the travelled fragments, emerges, and first constitutes an island, which at length becomes connected with the main land,—in time, perhaps, the site of a university like Upsala. Here the question is agitated, whether the land is stationary, or continually rising beneath their feet. Perchance they decide that it is motionless, and yet it continues to move upwards, "E pur si muove," till by a growth as imperceptible as that of the forest tree, what was once a submarine reef becomes the summit of an inland mountain. Here the geologist admires the position, number, and bulk of the transported fragments; identifies them with the parent mountains, a thousand miles distant to the north; and in speculating on the causes of the phenomena, imagines mighty deluges and tremendous waves raised by the shock of a comet, or the sudden starting up of a chain like the Andes out of the sea, by which huge rocks were scattered over hill and dale as readily as shingle is cast up by the breakers on a sea-beach.

But it is time to return from these digressions and to consider other memoirs treating of these and similar subjects which have been lately read to the society. There is perhaps no class of geological phenomena in Great Britain which has hitherto remained in more obscurity than that relating to the distribution and origin of superficial gravel, sand, and mud, especially that which has been called diluvium. Mr. Murchison, in his examination of the older rocks of part of Wales and England, has made a great step towards reducing these phenomena to order, and has thrown so much light upon them that his treatise may be considered not only as one of much local interest, but as likely to contribute powerfully towards the establishment of a general theory of these deposits. He has distinguished between the local drift, or the gravel and alluvium of South Wales and Siluria, and that which he terms the northern drift of Lancashire, Cheshire, North Salop, and parts of Worcester and Gloucester. The surface of the Welsh and Silurian territories is exempt from the debris of far-transported rocks, the alluvium there being derived from the adjacent mountains, while Herefordshire is chiefly covered with debris of the old red sandstone. The author, after giving a detailed description of the drainage of the Teme, Onny, Lug, and Wye, shows that in the valleys of these rivers the loose materials change with each successive range which they traverse, the fragments becoming smaller in proportion as they have been carried to greater distances towards the valley of the Severn. It is also demonstrated that there is an evident connexion between the distribution of this ancient gravel or drift, and the strike and dip of the strata in the Welsh and Silurian mountains; and hence it is inferred that the scattering of certain fragments took place during the original upheaving of the mountains. But there are other wide-spread accumulations of sand and gravel in the valleys of the same region, which have partly been due to the existing rivers, and partly to lakes which were drained long after the first emersion of the country from the sea.

The above-mentioned alluvia differ entirely from another kind of detritus, which is spread over parts of Lancashire, Cheshire, and North Shropshire, and which consists of granites, porphyries, and other hard rocks, similar to those of Cumberland and some of the Scotch mountains. To these, with their associated clay and sand, the author gives the name of the northern drift. It has two distinguishing features: first, the occasional occurrence in and upon it of large blocks or boulders of northern origin, sometimes of great size, like the erratics of the Baltic, and none of which ever enter into the region of the Welsh drift; secondly, the association with it of marine shells of existing species. This last fact was formerly noticed by the author and Mr. Gilbertson, at Preston in Lancashire, at heights of 350 feet above the sea. Sir Philip Egerton has since observed the same shells in sand and gravel, north of Tarporley, in Cheshire, at the height of seventy feet, where they occur at the western base of the Forest Hills, about nine miles from the nearest point of the estuary of the Mersey. But what is still more remarkable, Mr. Trimmer found similar recent marine shells on Môel Tryfane, near the Menai Straits, at the height of 1392 feet above the level of the sea. The same author also reported to us that he had discovered similar gravel with recent marine shells overlying a peat bog near Shrewsbury, in which were the remains of a submerged forest. Mr. Murchison, however, having examined this spot, has shown us that the supposed trees were stakes with sharpened points driven into the ground, forming a wood-work which supported an old road, and over these piles the shelly gravel or northern drift had been afterwards spread artificially. I understand that Mr. Trimmer now is fully aware of the mistake into which he had fallen.

From the evidence afforded by the shells, as well as by the indication of several newly-discovered localities where they occur sixty miles from the nearest sea-coast, Mr. Murchison infers that the tracts covered by them must have formed the bed of the sea during the modern period, and as the granitic drift occupying the high grounds east of Bridgnorth rises to the height of 500 or 600 feet, and thence descends in a deltoid form into the Vale of Worcester, he conceives that the sea also extended over the valley of the Severn from Bridgnorth to the Bristol Channel, so that there was then a strait separating Wales and Siluria on the one side, from England on the other. The deposits observed by Mr. Strickland at Cropthorne and at other points in the valley of the Avon, an eastern tributary of the Severn, and which contain fluviatile and land shells, with the bones of extinct quadrupeds, must, according to Mr. Murchison, have been accumulated at the mouth of the river which flowed from the east, or from the Cotteswold Hills, into the ancient straits above alluded to, and into which the northern drift was prolonged.

There are sections near Shrewsbury from which Mr. Murchison has been enabled to deduce to relative age of the two alluvial formations, the local or Welsh drift having in those places been found covered by the clay and boulders of the northern drift. The latter is, therefore, evidently of newer origin. As to the mode in which the erratic blocks were transported, Mr. Murchison adverts to the possible agency of icefloes, and to the difficulty of imagining that currents of water alone, whether of rivers or the ocean, could have exerted a force adequate to their removal to such great distances; many boulders of several tons in weight having been transported to more than 100 miles from the nearest possible source of their origin. He also infers from the position of the shells, gravel, and boulders, that they were not washed, as has sometimes been imagined, by one or more diluvial waves over pre-existing lands, but were all deposited during the same period in the bed of the sea, which bed was afterwards uplifted to unequal heights by movements of elevation of unequal intensity—movements which, though so largely affecting the physical geography of our island, must have taken place within the modern era.

Mr. Edward Spencer has communicated to us the result of his examination of the "diluvium" near Finchley, and the summits of the neighbouring hills of Highgate and Hampstead. The gravel there contains water-worn boulders of granite and porphyry, together with fragments of secondary rocks with their characteristic fossils from the mountain limestone to the chalk inclusive. Mr. Spencer supposes that the current which brought these materials into their present situation must have flowed from the north. The diluvium here alluded to seems to correspond to that which covers the crag of Norfolk, and which is in some places intimately connected with that deposit. I may add, that I have seen a similar formation on the banks of the Elbe, below Hamburgh, and in other parts of Denmark, with erratic blocks included in it in some places.

Our secretary, Mr. Hamilton, has described a bed of marine shells, of recent species, on the southern coast of Fifeshire, near Elie, part of the deposit being twelve or fourteen feet above the level of high tide. Similar marine shells have been observed above the sea-level in many of the low lands bordering the estuaries of the Forth and Tay; and in the memoirs before mentioned, Mr. Murchison has described a raised beach at the mouth of Carlingford Bay, Ireland, which he lately examined in company with Professor Sedgwick. Mr. De la Beche also informs us, that he has lately discovered proofs of two movements of the land of Somerset, Devon, and Cornwall, one to a height of about thirty to forty feet above the present sea-level, and another to an uncertain depth beneath it, both subsequent to the period when the vegetation of the land and the molluscous inhabitants of the neighbouring sea were the same as they now are.

The evidence, therefore, is annually augmenting in favour of considerable alterations in the relative level of land and sea having been brought about in northern Europe at a comparatively modern epoch. For this reason I am more than ever disposed to refer to great movements of elevation and depression, the origin and present position of the loess of the valley of the Rhine, of which I gave some account in a former year. I have lately had occasion to recall your attention to this ancient silt, in which terrestrial and aquatic shells are preserved of species still living in Europe. It is found from below Cologne to the neighbourhood of the Falls of Schaffhausen, exhibiting almost every where the same mineralogical character and fossils, forming sometimes low hills which cover the gravel of the great alluvial plain of the Rhine, sometimes rising up on the flanks of the mountains which border the great valley, an elevation of 300 or 400 feet above the river, or more than 1200 feet above the sea. I discovered lately, in the neighbourhood of Basle, the first remains of fossil fish, which have been detected in this silt; and Mr. Agassiz recognised them as the vertebræ of a small species of the Shark family, perhaps of the genus Lamna. They were associated with the usual fresh water and terrestrial shells, and the fact appeared anomalous; but the celebrated ichthyologist informs me, that species of this family, and of the Skate tribe, have been known to ascend from the sea up the mouths of the rivers Senegal and Amazon, to the distance of several hundred miles.

Some have imagined that a great lake once extended throughout the valley of the Rhine, which sent off large branches up the courses of the Mayne, Neckar, and other tributary valleys, in all of which large patches of loess are occasionally met with. The barrier of such a lake has been placed in the narrow gorge of the Rhine between Bingen and Bonn; but this theory is untenable, as there are proofs of the loess having once filled that gorge, and of its having overspread the adjoining hills of the Lower Eifel; also that it reached to the flanks of the hills bounding the valley of the Rhine as far down as Cologne, and still further.

Instead of supposing one continuous lake of sufficient extent and depth to allow of the simultaneous accumulation of loess at all heights, and throughout the whole area where it now occurs, I conceive that subsequently to the period when the countries now drained by the Rhine and its tributaries, acquired nearly their actual form and geographical features, they were again depressed gradually by a movement like that now in progress on the west coast of Greenland. In proportion as the whole district was lowered, the general fall of the waters between the Alps and the ocean was lessened, and both the main and lateral valleys, becoming more subject to river inundations, were partially filled up with fluviatile silt containing land and fresh water shells. After this operation, when a thickness of many hundred feet of loess had been thrown down slowly, and in the course of many centuries, the whole region was once more upheaved gradually, but perhaps not equally, throughout the whole region. During this upward movement most of the fine loam was carried off by denudation to such an extent, that the original valleys were nearly re-excavated. The country was thus restored to its pristine state, with the exception of those patches of loess still remaining, and which, from their frequency and their remarkable homogeneousness of composition and fossils, attest the original continuity and common origin of the whole. By introducing such general fluctuations of relative level, we may dispense with the necessity of erecting, and afterwards removing a great barrier more than 1200 feet high, sufficient to exclude the ocean from the valley of the Rhine during the accumulation of the loess.

Dr. Fitton has again brought before us those curious phenomena in the Island of Portland, from which the former alternate existence of sea, of dry land, and, lastly, of a body of fresh water in the same place, all anterior to the formation of the chalk, has been clearly inferred. In the ancient soil, called in Portland the "Dirt bed," the silicified trunks of trees and their roots are still preserved. Some curious facts are just published on this subject in the new Part of our Transactions, in a memoir by Dr. Buckland and Mr. De la Beche. After Mr. Webster had first made known the nature and existence of the dirt bed, Professor Henslow ascertained that between this and the marine colite of Portland there were two other beds of carbonaceous clay, and in one of these Dr. Fitton has now found the remains of Cycadeæ, from which it appears that the forest of the dirt bed was not the first vegetation which grew on this tract. First there must have been the sea of the colite, then land which supported Cycadeæ, then a lake or estuary in which fresh water strata were deposited, then again land on which other Cycadeæ and a forest of dicotyledonous trees flourished; then a second submergence under fresh water, in which new strata were formed; and finally, a return of the

* Principles of Geology, vol. iii. p. 149, 1835, enlarged in later editions.

† *Sur les Blocs Erratiques de la Suisse*, Ann. des Sci., tom. viii. p. 219. Mr. Bakewell has also in some of his works alluded to the carrying of Alpine blocks by ice.

ocean in the south-east of England, when the greens and chalk were superimposed upon the Wealden. The appearances in Portland alluded to by Dr. Fitton may be explained either by the alternate rising or sinking of the same ground, or by simply supposing one gradual and continuous subsidence in a region where a large and turbid river entered the sea. The conversion of certain tracts into land several feet high might be caused in a single year by river inundations, and there might be sufficient time for a forest to grow upon these before the continued sinking down of the land (assuming it to have been constant) had time to cause the tract to be again submerged. I have before adverted to the petrified forest described by Mr. Darwin, in Chili, where the trees have grown on a bed of lava, and have then been covered by sand and sedimentary and volcanic matter 2000 feet thick. These facts seem to prove that the region of the Andes, instead of having been raised up suddenly and at once, a few thousand years before our time, as some have conjectured, has undergone, even since the commencement of the tertiary period, vast movements of depression as well as of elevation.

Among the modern changes of the surface of the globe, which have been attributed to a depression of the earth's crust, I may mention the great cavity in Western Asia, spoken of by Humboldt in his "Asiatic Fragments." The supposed existence of a region of dry land, 18,000 square leagues in area, surrounding the Caspian Sea, and below the mean level of the ocean, naturally excited the most lively curiosity. The fact was regarded for twenty years, as established by a series of barometrical measurements made in 1811 by Professors Englehardt and Parrot. The difference of level which these travellers assigned to the Caspian and Black Seas, amounted to about 350 feet. But Professor Parrot having revisited the tract in 1829 and 1830, soon found reason to doubt the accuracy of his former conclusions. He learnt that some Russian engineers had ascertained by careful measurements that the Don, at the place called Katschalinsk, where it is only sixty wersts distant from the Wolga, is 130 Paris feet *higher* than the latter river; and as the Don flows with much greater rapidity to the Black Sea than the Wolga does to the Caspian, the difference of level between the two seas, if any, must be considerably less than 130 feet. Parrot accordingly made a series of levelings from the mouth of the Wolga to Zarytzin, 400 wersts up its course, and from the mouth of the Don to the like distance; and these observations give as a result, that the mouth of the Don was between three and four feet *lower* than that of the Wolga! So that, according to this measurement, if there is any difference between the levels of the two seas, the Caspian is the highest! Baron Humboldt, who, with other geographers, had given full credit to the former statement of Parrot, very naturally refused to admit the validity of these new observations, unless the professor was prepared to show that his former ones were less worthy of confidence. In reply to this, Professor Parrot, in his appendix, admits that the barometrical instruments used in 1811 were imperfect, and that his former calculations also were in some respects inaccurate.

It appears to me perfectly natural that Baron Humboldt, M. Arago, and others, should have willingly admitted the supposed fact of a considerable variation between the levels of the Caspian and Black Seas. It is well known that the Mediterranean sustains its level at nearly the same height as the ocean, by drawing largely from the Atlantic on one side, and from the Black Sea on the other. But if these constant supplies of water were cut off—if the Straits of Gibraltar and Constantinople were closed, and the Mediterranean became an inland lake isolated like the Caspian, its level must immediately fall. Its loss, by evaporation, would not be counterbalanced by the influx of river water, and there would then exist around its borders a tract of dry land lower than the ocean. It is true that we have no data for deciding to what extent this depression of level would reach; but it would present, at least on a small scale, a phenomenon analogous to that supposed to have been established in the case of the Caspian.

With every inclination to acknowledge and duly to appreciate the honest zeal with which Professor Parrot has laboured to correct his first error, I may remark, that it does not yet appear why three or four years were lost after 1829, in putting the scientific world on their guard; and, above all, why the author of the "Asiatic Fragments," published in 1831, was allowed to remain in ignorance of results previously obtained.

Gentlemen, I have now endeavoured to lay before you a brief sketch of the principal subjects referred to in the papers, and in the discussions which have engaged the attention of the society during the last year. I have confined myself exclusively to our own proceedings; for the limits of this address would not allow me to give an analysis even of all the English works on geology which have appeared since our last anniversary, still less of all those which have been published on the continent. A brief notice of these last, would, indeed, require a volume; and this fact alone should inspire us with a feeling of strength and confidence in the future progress of geology, which, although it had scarcely obtained a recognised place among the sciences towards the close of the last century, has already risen into such importance as to excite a general interest in every nation throughout the world where the works of nature are studied.

GLOSSARY OF ENGLISH MINING TERMS.

DERBYSHIRE.

[*Continued from No.* 42.]

Maul—A large hammer.
Maundrill—A pick for various purposes, but generally used to undermine with.
Mear—Thirty-two yards of ground on the vein.

Needle, or *Pricker*—A thin rod of iron put in shot holes, while they are rammed up, and which being then drawn out leave a hole into which the match is introduced for setting fire to the charge.
Noger—A jumper, or borer; a drill.
Nogs—Square pieces of wood which are piled on each other to support the roof of a coal mine.
Noper—See Loading pick.

Old Man—Places worked centuries ago, or in former ages.
O'erlayer—A piece of wood on which the sieve is placed after washing the ore in a vat.
Opens—Large caverns.
Open cast—When a vein is worked open from the *day* or surface.
Ore—The mineral as produced in a mine.

Pack—A quantity of materials, either wood or coals, &c., piled up to support the roof, or for other purposes.
Pee—A piece of lead ore.
Pillar—A support for the roof, of timber, stone, or other material.
Pipe—A vein running unlike a rake, having a rock roof and sole.
Plumb—A line and lead to measure with.
Poling—A plank or piece of wood to prevent earth or stone from falling.
Possession—When stowces or wooden frames are placed on a vein it is said to be in possession.
Post—A pillar of coal or other strata left.
Pricker—A thin piece of iron used to make a hole for the fuzze, or match, to fire a blast.
Primgap—A variable distance between two possessions.
Punch—A piece of timber used as a support for the roof.

Rake—An oblique vein.
Ratchell—Loose stones.
Rib—A pillar of coal left as a support for the roof.
Ricket—See Fang.
Rider—A rocky substance which divides the vein.
Ringer—A crow bar.
Rising—A man working above his head in the roof is said to be rising.
Roof—The part above the miner's head; that part of the strata lying immediately upon the coal.
Rubble—See Ratchell.
Run—When the earth falls and fills up the shafts or works it is said to run.

Scaffold—In a mine a platform made, where some miners work above the heads of others.
Scouring bit—A bit attached to the end of boring rods for the purpose of extracting the rubbish.
Scraper—An instrument to extract the pulverised rock, &c., from shot-holes when boring.
Scrin—A small vein.
Seat, or *sole*—The floor or bottom of the mine.
Shaft—A pit, the perpendicular entrance to the mine.
Shakes—Fissures in the earth.
Shift—The time a miner works for one day.
Shot—Blasting.
Sinking—Working deeper or downwards.
Skep, or *Skip*—A square box (usually wrought iron) in which the coals are sent up to the pit's mouth.
Sled—A sledge to draw ore without wheels.
Slipes—Flat pieces of iron for the corves to slide on.
Slit—A communication between two adits.
Smelting—Reducing the ore to metal.
Smitham—Small lead ore dust.
Smut—Decomposed dark earthy substance, or coal decomposed by the air at the surface of the earth.
Sole—The seat or bottom of the mine, applied to horizontal veins or beds.
Sole tree—A piece of wood belonging to stowces to draw ore up from the mine.
Sough—An adit or level for carrying off the water.
Spanner—An instrument to turn screws with.
Spindle—A part of the drawing stowces.
Stays—Pieces of wood to secure the pumps in the engine-shaft.
Stemmer—A piece of iron with which clay is rammed into the shot-holes to make them water tight.
Stemples—Wood placed to go up and down the mine instead of steps.
Stickings—Narrow veins of ore.
Stope—A piece of mineral ground to be worked.
Stoping—Cutting mineral ground with a pick; working downwards.
Stopping—A dam of bricks or clay to turn the course of the air.
Stowces—Drawing stowce; a small windlass.
Stowces—Pieces of wood of particular forms and constructions placed together, by which the possession of mines is marked; a pair of stowces possess a mear of ground.
Strings—Small veins of ore.
Sump—A shaft underground; a well, or lodge for water.
Swallows—Caverns or openings where the water loses itself.

Tacklers—Small chains to put round the loaded corves.
Thurl—A long adit in a coal pit.
Thurst—The ruin of the incumbent strata after the pillars and stalls are wrought out.
Troques—Wooden drains like troughs.
Troubles—Faults or interruptions in the stratum.
Trunks—Wooden spouts to convey wind or water; small boxes in which rubbish or dirt is sent up out of the mine.
Tub—A cast iron cylinder put in the shaft instead of bricking, for the purpose of beating out the water and making it rise to a level.
Tugs—Hoops of iron fastened on the corves to which the tacklers are affixed.
Turntree—A part of the drawing stowces or windlass.

Underlay—When a vein hides or inclines from a perpendicular line it is said to underlay.

Vein—Any substance different from the rock; a rake vein is oblique; a pipe vein nearly horizontal.
Vat—A wooden tub used to wash ore and mineral substances in.

Walling—When the roads in the mine are made with stone it is called walling. The sides of the mine or gangart is frequently called the wall.
Wash-hole—Where the refuse is thrown.
Wastes—Vacant places left in the gobbing, on each side of which the rubbish is packed up for the better support of the roof.
Water-holes—Places where the water stands.
Weigh-board—Clay intersecting the vein.
Wedge—An iron tool to get ore, split rocks, &c.
Whim—An engine or machine to draw ore, &c., worked by horses.
Wind-way—A passage left purposely for air.
Wind-bore—The bottom pipe in a lift of pumps.
Wind holes—Shafts or sumps sunk to convey wind or air.
Windlass—A machine used to draw up ore, &c. See Stowces, by which name it is commonly called.
Windless—A place in a mine where the air is bad or short, is said to be windless or airless.

Yokings—Pieces of wood ascertaining possession. Stowces.

FOREIGN MINES.

MEXICAN MINING ASSOCIATION.

Mexico, April 20.—The managers have to acknowledge the receipt of your despatch of the 13th February last, with its enclosures of statements of capital charged, and balance of cash.

Guanaxuato.—The mine of Rayas has experienced several serious fluctuations, and recently to such an extent, that the resources for continuing operations in that mine, as well as for general purposes, have been, and continue to be, nearly exhausted. The managers are now waiting with the greatest anxiety the realisation in full, or in part, of the hopes held out by Mr. R. Glennie's last report, of some improvement having shown itself in that mine, as well as in its produce actually under the process of amalgamation at the haciendas.

Zacatecas.—The continuation of the oppressive conduct of the legal authorities there, having made it imperative on the present board to call again for Mr. Pakenham's interposition, Mr. Shoolbred had an interview two days' since with his Majesty's minister on this subject, and the two cases of claims for spoliation by the executive government, but as the despatching of the present packet was so near at hand, Mr. Pakenham could not then give his whole attention to these matters, and promised to appoint an early day for the discussion and investigation of the association's grievances in that quarter, preliminary to a representation to the Mexican general government.

Sombrereté.—The process with San Anitua has been referred from Zacatecas to Sombrereté, and many days cannot elapse ere the board will have to delegate some competent person to defend the rights of the association in the latter place.

Mellado Drainage.—Fresh hopes are again entertained of a speedy termination of the association's just and admitted claim in that respect, which the board would feel gratified in seeing realised, for, with this important addition, much of their present anxiety on the score of finances would be removed.

Oaxaca continues in a state of strict amparo; and every day confirming the fallacious hopes originally held out as to the value of the ores under amalgamation.

Annual Accounts.—These documents were received by last post, only from Guanaxuato, but as they require some revision, and, at the same time, as they form a full and detailed compilation of the association's affairs, it is presumed that it will not be attended with much inconvenience to the directors to retain them here until next packet, to be used, in the mean time, as the basis of the information which Mr. Shoolbred is desirous of obtaining, and Mr. O'Gorman willing and ready to give, on matters which will necessarily command the immediate attention of the board.

Liquidation with the Mexican Government for Arista's Spoliations.—Mr. Pakenham pressed Mr. O'Gorman, previous to the arrival of Mr. Shoolbred, to produce the vouchers for these claims, in order to their liquidation with the Mexican government, as it fortunately happened that Mr. Fernando Chico, whom the Mexican government had appointed as commissioner on its behalf, was at that moment in this city, but who would be under the necessity of immediately returning to Guanaxuato. Mr. Pakenham having named Mr. O'Gorman to discuss these claims, a meeting took place at the palace on the 12th inst., at which all our claims were approved and admitted on behalf of the Mexican government by Mr. Chico, with the sole exception of the total amount claimed for the value of ores sold at the mine of Rayas, which was limited to the actual amount General Arista sold them at, instead of the extreme pretension made by the association, that they should be paid for at the value which the mine had set upon them, reducing the claim from $94,772 7 5, to the amount now adjusted and admitted of $89,003 5 5. The board feels assured that the court of directors will be gratified in learning that the Mexican government can no longer oppose any difficulties in proceeding to the liquidation of this amount, under any plea of its various items not being duly proved.—Mr. Pakenham having been requested by the board to urge the final settlement of this amount, gave it as his opinion, in consequence of what had already passed between him and the Mexican government, that an instalment of $30,000 dollars might possibly be paid between this and the 1st July next.

Finances.—The board beg to express their great concern at the very low ebb of the finances and general resources placed at their disposal in this country, in which they can foresee no alleviation of immediate nature, except in a decided and steady improvement in the mine of Rayas, considering, as they do, that any relief from the release of property at Zacatecas, any payment of the admitted claims relating to Arista's spoliation, or part payment of the Mellado drainage, as occurrences that cannot be relied on.

From the district of El Oro there is nothing new.

GEORGE O'GORMAN. J. N. SHOOLBRED.

Rayas, March 27.—In two of the three weeks that have elapsed since last report, there were only five working days.

La Purisima, Frente del Contracielo de la Merced.—The ores in this point have become rather more abundant within the last few days, and a small quantity of apolvillado is met with amongst the comun; the best ores are found inclining to the cielo.

Frente y Pozo de Santa Victoria continue the most productive points in the Purisima, containing some rich bunches and costras of apolvillado, intermixed with the azogue comun. A pozo is being opened in the frente, and two frentes in the pozo, on the same class of ores as those already met with.

Contracielo de S. José has turned out rather variable; its present aspect is good; twenty-five pair of barmen are employed in La Purisima by day, and twenty pair by night.

San Juan Bautista.—The cross-cut has advanced 2.23 varas in two weeks, and the ores are improving considerably, both in quantity and quality, as the work advances—the body not having been yet cut through. It is composed of azogue comun, and branches of apolvillado, together with rich threads.

In the Pozo the ores have been observed to have risen cosaiderably, and at the same time are rather scarce. The frente to the north-west contains more ore than that to the south-east. The quality of those from both frentes is rather ordinary. Nine pair of barmen are employed in S. Juan Bautista by day, and as many by night.

Guadalcupe del Tiro Gral.—No variation has been observed either in the Contracielo, or in the Frente de la Concordia, in which six pair of barmen are still employed. The weekly produce of ore in Grena, from La Purisima, S. Juan Bautista, and Guadaloupe, has averaged 1000 cargas, which have given 115 cargas of azogues of about twenty marcs per monton; seventy cargas of tierras de mortero of about seven marcs per monton, and 150 cargas of tierras de labor of about five marcs per monton.

San Cayetano, Frente de Jesus.—The ores being found to go down on the inclination of the lode, the pozo is being followed up on a body of apolvillado, varying from a quarter to half of a vara in breadth, but of the class of the esmerilosos.

Pozo 3° de Jesus contains a fair quantity of azogue comun, amongst which some bunches of apolvillado are found, particularly on the north-west side.

Pozo 2d° Jesus.—The ores in this pozo are scattered over a very large surface, and the bunches of apolvillado are very inconstant. A frente to the south-east (which will soon be communicated with the pozo 3°), contains a fair proportion of good ore.

Pozo 1° de Jesus.—The good ore found to the alto of the reliz continues as the pozo advances; and a frente to the north-west has been opened, which, in all probability, will ere long be communicated with the Pozo del Patrocinio.

Pozo de la Luz is advancing, without any particular variation being observed. Thirty pair of barmen are employed in San Cayetano by day, and twenty-nine pair by night. The weekly produce of ore in Grena has averaged 1300 cargas, which have given 100 cargas of azogues of about twelve marcs per monton, and fourteen cargas of tierras de mortero of the apolvillado of about eight marcs per monton. The assays of the tierras de mortero del comun do not look very promising.

La Cruz.—The ores having become very scarce, and the consumption of quicksilver in reducing them being excessive, the work has been suspended.

Frente de San Simon has advanced 1.46 vara in two weeks, and affords nothing worthy of notice.

San Miguel.—It is still necessary to secure the ground through which the frente to the south-east of the cross-cut is advancing, some slight appearances of ore have been met with. The upper work is advancing slowly; very ordinary ore is met with, and occasionally a rich bunch of polvillos, or rich threads of ore, are found. All the hacienda ores are now extracted by the great shaft, and the patio of Santa Rosa is left free for the buscones, who, in three sales, have sold ores to the amount of $4941 4, of which one-half, $2470 7½, belongs to the mine. In taking up the morteros in Santa Rosa, a large quantity of tierras have been collected, which it is to be hoped will prove to contain a fair ley. Ores sent to San Matias, 510 cargas; ditto to Barrera, 976; total, 1486. The ores on hand are calculated at 726 cargas, in a picked state, and 790 in an unpicked state. G. R. GLENNIE.

Rayas, April 15.—In one of the two weeks that have elapsed since the last report, there were only four work days, in the other five.

La Purisima Frente del Contracielo de la Merced contains a fair quantity of azogue comun, amongst which are some threads and small bunches of apolvillado. Some ores are appearing in the plan of the working.

Frentes y Pozos de Santa Victoria are producing a considerable quantity of azogue comun, together with a fair proportion of apolvillado, and some rich costras.

Contracielo de S. José.—The ores have become rather scarce de cielo, but a frente to the south-east is about to be commenced on ores of a fair class, and in some quantity. Twenty-five pair of barmen are employed in La Purisima by day, and twenty pair by night.

San Juan Bautista.—The cross-cut has been driven 3.19 varas, and the body of ores cut through; some barmen have been employed on this body, which produces azogue comun, and some threads of good ore. The pozo and frentes have become so poor as to be suspended for the present. Six pair of barmen are employed in S. Juan Bautista by day, and as many by night. The produce of ore in Grena in the two weeks, from La Purisima and S. Juan Bautista, has been 1476 cargas, which gave 175 cargas of azogues, of about seventeen marcs per monton; sixty cargas of tierras de mortero, of about seven marcs per monton, and 140 cargas of tierras de labor, of about five marcs per monton.

Guadaloupe del Tiro Gral.—The contracielo proving unproductive, after having searched on all sides, and the Frente de la Concordia advancing in borrasca, without any variation being noted, all work has been suspended for the present.

S. Cayetano, Frente de Jesus.—The pozo in this frente is being followed up, and a slight improvement in the class of the ores is observed.

Pozo 3° de Jesus contains a fair quantity of azogue comun, together with some bunches of apolvillado.

Pozo 2d° de Jesus.—The ores are rather more abundant in this working than heretofore. The frente to the south-east has been communicated with the pozo 3o, and a quantity of good ore thrown down in opening out the communication.

Pozo 1° de Jesus contains a considerable quantity of azogue comun, amongst which are some large bunches of apolvillado. The frente to the north-west has been communicated with the Pozo del Patrocinio, in which the ores are rather scarce.

Pazo de la Luz contains threads of apolvillado to the bajo, with a considerable body of azogue comun to the alto. Thirty pair of barmen are employed in San Cayetano by day, and twenty-nine by night. The produce of ore in Grena in the two weeks, has been 1689 cargas, of which gave 136 cargas of azogues, of about twelve marcs per monton, and ten cargas o tierras de mortero of the apolvillado, of about eight marcs per monton.

Frente de la Luz.—This work has been driven 4.53 varas since the 7th of March, without any appearance of ore having been met with.

Frente de S. Simon has been advanced 1.97 varas since the last report.

San Miguel.—Nothing worthy of particular notice has occurred. There have been two sales of ores extracted by the buscones, amounting to $3091 4, of which one-half, $1545 6, belongs to the mine, and some heaps of tierras have been sold for $537 4.

Ores sent to the Haciendas.—San Matias, 232 cargas; Barrera, 394 ditto; total, 626. The ores on hand are calculated at 314 cargas in a picked state, and 520 cargas in an unpicked state. The tierras collected from the morteros of the Patio de Santa Rosa amounted to 230 cargas. G. R. GLENNIE.

PENOLES GOLD MINING ASSOCIATION.

Oajaca, March 12.—I beg your reference to and confirm the contents of the enclosed duplicate of what I wrote you on the 7th ult., and I now acknowledge receipt of your esteemed favour of 15th December, just come to hand, two posts after the other letters, by the packet. About ten days ago I also remitted you, *via* the United States, the rayas and accounts for last month, with a report on the state of things at Penoles from Mr. Quin, which I hope will have been duly received. The principal reason for my not writing you a few lines at that time was, that I found myself somewhat embarrassed to represent to you the real state of affairs, and I was in hopes ere this they would have taken a more decided turn one way or the other, instead of which, however, I do not see that the operations of the past month have led to any thing conclusive. There have been pretty well of ores extracted each week, it is true, and in the course of these workings we have had our expectations occasionally raised by temporary improvements. So far it has turned out, however, that nothing very substantial or important has resulted. In consequence of this I renewed my proposals to Don José Contreras for his mine of San Juan on the terms mentioned in my last, Mr. Quin having gone to see it, and made a favourable report, such as agrees with the accounts that have been given me from other quarters. According to the correspondence that has passed between us we are almost agreed, and I have only been waiting for Contreras to come to town, in order that we may the better understand each other, and make out a proper document to the effect. By a letter received two days ago from Mr. Quin, I hear that a rich bunch of ore has just been discovered in San Juan, which will, perhaps, induce Contreras to withdraw. At the time he gives me this information, he also mentions that in the new works at the Augustias the ore has become receivable, and as they lead into new ground, he has great expectations of something important resulting. If this be the case there will be a new mine, and it will give plenty to do for our remaining means, without touching any other; and it is much better to be alone and independent, than connected with a native of this country. My reason for making the suggestion to him I did, was from the very slender hope that I considered presented itself to us, and that we stood a better chance of getting something back from San Juan, than in persevering as we were doing. In this respect, unless the Augustias mine does well, my opinions and ideas are not changed, and I shall have to proceed in the business as circumstances may appear. Mr. Quin has lotted the people on all hopeful points, and as the ground is soft, we shall be able to say something further in the course of a fortnight or three weeks. As mentioned in my last, my intention is to go on steadily and persevering, if not in one place in another, till the money now here be nearly exhausted; after which there must be something more than probable, or probabilities, to induce me to go further in making other demands upon you; it will only be in the event of great improvement, and the almost certainty of success.

From Guadalcupe ores continue to be extracted, principally from "bordos," the Sirena and San Ling are also giving a few, but the discoveries that are being made in these three mines are unimportant, and I am not very sanguine with either of them. There has been a great drought this year, and the mill is grinding scarcely fifty cargas of ore per week. There will soon be some rain, and I expect a good many ores will be accumulated for the wet season, when they can soon be disposed of. I hope you have not lost sight of the stamp-heads you promised to send. You know what we have in use are all but finished, and that I owe three to the Mexican Company's mines from months. In directing your letters to Mr. Quin, you had better put them to my care, instead of to "Penoles, Mexico," for that of November has travelled nearly all over the Republic, and was only received a few days ago.

JOHN SADLER.

Penoles, March 21.—I had this pleasure on the 18th ult., to which I beg

to refer, and acknowledge the receipt of your favour of 16th November last, which only came to hand on the 21st February. Accompanying this, I remit copies of the *Reyes Journal*, &c. for last month.

We still continue to take ores from the bordos of the Augustias mine, and the produce for some time has been about eighty cargas per week. The works I mentioned as being carried on in the adit are now abandoned, because there was no improvement, and, in fact, the vein finished in that direction altogether. I then put some people to work on the new vein near this mine, mentioned in my letter of the 14th October last; here I managed to get rid of the foul air more easily than I at first imagined; and last week a small bunch of pretty good ore was discovered, which gives hopes of very soon getting into good ground. I continue to keep two people employed at the Sierra, where a few ores have been discovered, which as soon as they extract, and if no improvement should take place, it will be better to give it up. At St. Louis they have now finished to extend the few ores found near the surface, and nothing further can be done there. From Guadaloupe I continue to get ores, and have lately received fifty-one cargas; there are on hand at the mine about 150 cargas, all pretty good.

Mr. Sadler will have informed you of the agreement he intends to enter into with Don José Contreras for his mine St. Juan. This is the best mine in the district; it has been productive for some years, and at present is in a very good state. Contreras' motive for ceding it to us is, that he has no funds, and is obliged to work the mine by the share with his people, who steal from him the greater part of the produce. The intended agreement is only for four months, and after that term we have the choice to continue or return the mine. I think we can do much better here than by spending the remainder of the funds at the Augustias, or any other of the mines belonging to the company. After Easter we intend to commence operations, and I shall then give you a particular account of the mine, and the prospects it holds out. By that time the ores of the Augustias will be nearly exhausted, and it is intended to keep only three or four people employed there, to extract whatever ores may remain, and to carry on a work on the new vein, to see what may turn up.

On the 14th inst. I took the gold from the pans, which produced 26 oz. 19 dwts. Troy: the ore ground, since the 12th inst., when we last took the gold, is about 420 cargas; this is poor, but a great deal of gold remains below the stamps, especially when the mill goes so slow as at present—this shall be taken out next month. We have on hand at the stamp work and mines about 650 or 700 cargas, some of which is pretty good.

GEORGE QUIN.

Ojaca, March 26.—In sending forward the enclosed duplicate of what I had the pleasure to address you on the 12th inst., and the annexed report from Mr. Quin, with the Penoles and Rayas, and accounts for last month; I acknowledge the receipt of your favour of the 10th January, just come to hand, which I was in hopes would have advised of some stamp-heads being on the road, and that you would have entered more into the merits of the answer required in my October correspondence. As my time is much taken up by this post in answering the packet letters, I shall refer you for the moment to Mr. Quin's statement of the mines, &c., which do not appear to have undergone any important change during the past fortnight. The new works in the Augustias continue to hold out reasonable hopes, and they give more or less of yielding ore; not being, however, very confident of the ultimate result, and when Don José Contreras was in town the other day, we had some further talk about working his mine of San Juan on account of the company, which we are now pretty well agreed upon, and when he comes to town in the Easter week, we shall have a proper agreement made out of the understanding that exists between us. San Juan is a soft mine, and one in which a good deal of work can be done for little money; and it appears to me, that if nothing is to be gained by it, there should not be much loss; at all events, as mentioned in my last, it will be giving your establishment the best means of being able to exist on its own resources, after the little disposable means now remaining are finished; and whilst trials are being made there, they can also be carried on in the Augustias, where I do not abandon all hope. If in the one place or the other any thing decent should turn up so as to fully justify a continuance of, or to incur extra expenses in dead or useful works, I might be induced to call upon you for further pecuniary aid; also in the case of having occasion to erect a stamping mill close to San Juan, but without the best founded reasons for such proceeding, I repeat to you that it is not my intention to do it, on the contrary, I will go on as long as the money lasts, and which, with the produce of gold that will be coming in after the rains commence, may carry us on for some time; by when, I trust, you will have made up your minds in giving me instructions of what you wish to have done with the concern, even without which there will be no other remedy than to abandon it, in the event of things going badly, and which I mention for your government. In my last I recommended you not to leave me without stamp-heads, or I shall very soon be brought to a stand; their cost will not be much for fifteen or twenty, and if they should not be all wanted, it will not be a difficult matter to dispose of them afterwards.

JOHN SADLER.

PROCEEDINGS OF PUBLIC COMPANIES.

EAST WHEAL STRAWBERRY MINING COMPANY.

The first annual general meeting of the shareholders in the East Wheal Strawberry Mining Company, was held at the London Tavern, June 29, 1836.

GEORGE PALMER, Esq., in the chair.

The following report was read.

In presenting their first annual report, the directors cannot refrain from expressing their confidence that it will give that satisfaction to their fellow-shareholders which the progressive improvement in this their joint undertaking appears fully to warrant.

The necessity of going much into detail on the state and prospects of your mining property, has been obviated by the lengthened and specific report of your agent, Mr. William Petherick, which will be immediately read. On one or two points only they will, therefore, claim your attention.

You are aware that on the establishment of the company on its present basis, the East Wheal Strawberry mine formed the exclusive object of prosecution and development. A most advantageous opportunity, however, presented itself of adding an adjoining sett, in which there have been productive and extensive workings for tin. The amount required for this purchase did not exceed 240*l.*, including some materials, tin stuff, and stamping mill on the mine; and in making this addition to the mining property of the company, the directors cannot but feel that they have increased its value to an important extent.

Mr. William Petherick's report will inform you of the operations now in progress for developing this part of the undertaking (called the Orchard sett in the weekly reports), and which will soon be complete. A small engine is now in course of erection, which is intended to be applied to the joint purpose of stamping the tin ores and drawing the water, until increase of produce may render additional power necessary.

The following is the report referred to.

In laying before you my first annual report, I shall state in detail as much as may be useful and necessary of the proceedings since the mine has been under my management.

At our first setting, in May, 1835, the two principal shafts (Grout's engine and whim-shafts), and a cross-cut to them from Trewithen south lode, and the building of our engine-house, and other surface erections, were let for the purpose of commanding the effectual prosecution of the lodes at a greater depth (which were then partially laid open at the adit level), and to such an extent as their very promising appearances warranted. At that period our principal object was the trial of Trewithen south lode; the statement which I shall submit for your consideration will show it to be very productive and profitable, and that our anticipations of a favourable result have been realised.

The very short time of our working below the adit level (which could not be commenced until the completion of the steam-engine), necessarily rendered our operations on the other lodes of this mine very limited, but from which very considerable returns of tin ores have been made, and with advantage to the former proprietors, as far as their want of proper machinery to follow them in depth would admit of. We are now preparing the necessary machinery for exploring them effectually; and from the testimony of the agents of this mine, and of the neighbourhood, there is little doubt of a satisfactory result, added to which, we have a very important advantage in the great increase in the price of metals since those lodes were last wrought.

Of the expenditure of the mine to the end of April, the following has been paid for "tutwork" alone:—

	Fm.	ft.	in.	Amount.		
Sinking shafts, cutting plats, &c., previous to driving on the lodes	120	1	3	£585	11	0
Driving cross-cuts to the lodes	116	1	6	327	4	0
Driving on lodes, and sinking winzes on ditto	91	5	3	158	11	5
Total	328	2	0	£1071	6	5

From the above statement you will perceive that out of 1071*l.* 6*s.* 5*d.*, 912*l.* 13*s.* was expended preparatory to cutting the lodes, which has not been done below the fifteen fathom level; and in the above sum is included the cost incurred in sinking shafts to and below the twenty-five fathom level, with other necessary works preparatory to driving to cut the lodes at that depth, which has just been commenced.

Very little ground has been opened on the lodes; our operations, of which the following is a statement, have been confined principally to Trewithen south lode, and the result is very satisfactory.

	Fm.	ft.	in.
Extended at the fifteen fathom level on ditto	22	5	6
Ditto at the seven fathom ditto on ditto	22	4	6
Sinking a winze below the adit level ditto	8	2	6

From which, and the pitches opened by the extension of the seven fathom level only, the following returns have been made to the end of April (the period of the last accounts being made up):—

Ores sold 12th May	£568	0	0
Raised and unsold, sampled 20th inst., computed	348	0	0
	£916	0	0

The charge for tutwork on the foregoing is about 80*l.*, and of tribute about 280*l.*, so that the cost for raising it on tutwork and tribute did not exceed 7*s.* 11*d.*, and of tribute only 6*s.* 1*d.* in the pound. Although I have included the cost for driving the fifteen fathom level in the estimate of raising the above ores, the lode remains unbroken between the seven and fifteen fathom level, from which we expect considerable returns.

This lode is liable to change, though of a novel yet pleasing character, the produce of its metals alternating from tin to copper, in a westerly direction, in the vicinity of a cross-course, bearing towards corner shaft; it is very productive of tin ores; and from that point to several fathoms east of Roberts's shaft, its being profitable for copper, is evident from the statements which I have given you. Although tin is the prevailing metal westward on its course, copper predominates on its approach to a species of siliceous hornblende rock; this stratum, which occurs a little distance east of Roberts's shaft, has also been found near the copper lodes of the richest and most productive mines of the county; the lodes in passing through it cannot be explored so speedily as in some other strata, but there is little doubt of its being very congenial to metallic produce.

In extending the seven fathom level east and west of Roberts's shaft, on Trewithen south lode, it has been very productive; it is in the end west two feet and a half wide, yielding about two tons and a half of copper ores per fathom. At the fifteen fathom level it has undergone the change alluded to. East of Roberts's shaft, though not at present so productive as it has been, it is large and promising for yielding copper ores. West from that shaft we have opened on it about eighteen fathoms; ten or twelve fathoms of which will yield considerable quantities of tin ores; having extended on the lode, through ground worth 8*l.*, 10*l.*, and 12*l.* per fathom, and for a tolerable distance as high as 40*l.* per fathom.

At Orchard a moderate outlay has been made in extending on the lode at the adit level, and working on the productive ground left above that level, and though of a limited extent, it was wrought with profit to the adventurers.

Having brought under your notice the most important operations of the mine and their result during the past year, I proceed to state to you the works now in progress, and the objects which they embrace.

Grout's engine-shaft is sinking below the twenty-five fathom level for the purpose of commanding the further trial of the lodes at a greater depth, and we are now extending that level from it south to cut Trewithen south lode, the appearances of which are so very encouraging in the level above. The fifteen fathom level is being extended east of Roberts's shaft, on Trewithen south lode for its further trial in this direction; it is at present in hard ground, and though not so productive of copper as it has been, is of a very promising description. We are daily looking forward to a change in the state of the ground, and as it moderates, there is scarcely a doubt of the productiveness of the lode.

We are extending this level westward with all possible speed on this lode, having driven through several fathoms of productive tin ground, and have every expectation of additional improvement as we approach the cross-course (ten or twelve fathoms further to the west), immediately on each side of which it has been invariably the most profitable. The lode in the present end is worth from 10*l.* to 12*l.* per fathom, and the cost of driving 2*l.*

We are also driving this level north of Grout's shaft in very promising killas, which can be wrought expeditiously for the purpose of intersecting some kindly lodes in Trewithen Old Mine; it is now about thirty-eight fathoms north of the shaft, and we have about twenty-five fathoms further (according to information) to drive to accomplish our object.

The productiveness of Trewithen south lode, renders it necessary that a shaft should be sunk to open ground on it with facility, west of Roberts's shaft. To effect this desirable object we have commenced the necessary work for sinking an old shaft (Corner shaft) already sunk to the adit level, which will intersect Trewithen south lode (according to its present underlay) at thirty fathoms below that depth, and will not only be available for exploring it further in a westerly direction, and also to a considerable depth, but by short cross-cuts we shall be able to drain the Great Stopes lode to the fifteen and twenty-five fathom level, which can be done much sooner than waiting their extension westward from Grout's engine-shaft. As soon as this can be effected, I am informed that pitches can be sat at a moderate tribute, and additional returns of tin immediately made. To develope the favourable prospects at Orchard, with which we have every reason to be satisfied, from the very partial workings which have been made on the lode there, at and above the adit level, we are now erecting a steam-engine (which will be working in about six weeks) for the purpose of draining this part of the mine below the adit, and for propelling the stamping machinery for reducing the tin ores, of which we expect considerable quantities.

In the amount of cost charged, there are charges for cost incurred in the previous working of the mine, amounting nearly to 850*l.*, which have not been available to the prosecution of the mine in the present working. The erections now on the mine, including steam-engines, pitwork, capstan, shears, whims, with other necessary materials and buildings, will considerably exceed 4000*l.*

With the little ground which has been opened on Trewithen south lode, I consider the returns from that lode alone, to the end of the ensuing month, will be upwards of 2200*l.*; and I beg to observe, that there is seldom a mine to be found where there was so much work to do before the lodes could be intersected; that in so short a period such returns have been made, and so many points of such promising character developed, and with so trifling an amount of capital.

In conclusion, I beg to say, that the prospects of the mine are of a very satisfactory and promising description, and I look forward at no distant period to a satisfactory and substantial result. W. PETHERICK.

The directors now beg to call your attention to the account of receipts and expenditure, the amount of mine-cost being included to the end of April last.

Total expenditure from commencement to April 30, 1836	£9201	14	7
Total receipts for ores, 964*l.* 6*s.* 11*d.*; instalment of 1*l.* 10*s.* per share, 3840*l.*; two instalments of 1*l.* each, 5120*l.*	9924	6	11
	£ 722	12	4

In addition to this balance of 722*l.* 12*s.* 4*d.*, a parcel of copper ores will be sold on Thursday, July 7th, the probable amount of which will be, from 500*l.* to 600*l.*; and it is expected that as soon as the steam stamping machinery is complete, the quantity of tin will be considerable, and the returns of that description of produce regular.

A valuable pile of tin ore is now on the mine, and only waits the completion of the machinery to be made available. The expenses of purchase of the steam-engine, and the outlay attendant on its erection, will probably not be less than from 1200*l.* to 1400*l.*, which was not calculated on at the commencement; and, notwithstanding this additional expense, the directors hope from the improved prospects of the mine, to be able to continue their operations without calling on the shareholders for further advances.

The report having been read and adopted, the same was ordered to be printed.

The subject of coming to an arrangement with the shareholders in the adjoining mine of Wheal Hawkins, for drawing the water from the lodes near the boundaries of the two mines, was then taken into consideration, when it was unanimously resolved,

That the directors be authorised to arrange with the Wheal Hawkins shareholders on such terms as they may think fair and equitable to both parties.

A vote of thanks to and confidence in the directors having been passed, *nem. con.*, the meeting separated.

PERRAN CONSOLIDATED MINING COMPANY.

The first annual general meeting of the proprietors in this company was held at the London Tavern, on Wednesday, the 29th July, 1836.

GEORGE PALMER, Esq., in the chair.

The report of the directors, which was of a satisfactory nature, was read and adopted, the insertion of which we must defer until next week.

The usual resolutions of votes of thanks to the chairman and directors having been passed, the meeting adjourned.

LONDON AND BIRMINGHAM STEAM-CARRIAGE COMPANY.

The annual general meeting of the proprietors in the London and Birmingham Steam-Carriage Company was held on Tuesday, the 27th inst.

JONATHAN WORTHINGTON, Esq., of Stourport, in the chair.

The report of the directors, which was well received, announced that an engine every way efficient had been completed, and there remained no difficulty in building a number more like it, in a short time: that two bills were before the Legislature, which were likely to be of material benefit to the concern—one regulating turnpike tolls on steamers, the other a government measure for improving the road between London and this town; and that the proprietors were in a good position for realising all their expectations as to working steam-carriages on common roads at a good profit. The shareholders were unanimous in their determination to prosecute the undertaking with vigour, and an influential board of directors was appointed for the ensuing year.

STANNARY JURISDICTION BILL.

The following are the heads of this Bill, the object of which is to expedite the administration of justice in the Stannaries, to enlarge the jurisdiction of the courts, and to improve the practice therein:—

The Bill recites that the vice-warden has exercised original equitable jurisdiction over tin and tinners.

That the steward's court has had a similar common law jurisdiction.

That it would be for the convenience and benefit of all parties that the jurisdiction should extend to copper, lead, and all other metals and metallic minerals as well as tin.

The Bill then enables the Duke of Cornwall to appoint a vice-warden, who is to hold his office for life, and to be removable by the Duke of Cornwall on a requisition (stating the grounds) from a majority, or five, of the commissioners, or council of the duchy.

It declares the original equitable jurisdiction heretofore exercised by the vice-warden has been rightfully exercised; and that the present and every future vice-warden shall have the same equitable jurisdiction in all matters relating to the working of mines for metals and metallic minerals within the county of Cornwall; and to the searching, working, &c., any metal or metallic mineral, as if the same had related to any tin or tin mine.

All past and future orders and decrees to be binding, but any of them may be appealed from to the lord-warden and three or more members of the judicial committee of the privy council.

The Bill then consolidates the four stewards' courts, and gives the vice-warden the jurisdiction thereof, and also the same jurisdiction (as before in equity) over matters connected with all metals and metallic minerals, with a similar appeal to the lord-warden, and three or more members of the judicial committee of the privy council.

It enables the vice-warden to summon witnesses from any part of England or Wales, their expenses being tendered to them.

It enables the original process of the court to be served throughout England and Wales; and if the parties do not appear within a limited time, it enables the plaintiffs to enter appearance.

The provisions of 1 William IV. c. 36, enabling courts of equity to enter appearance, &c., where party has absconded, extended to the court of the vice-warden, provided the party has resided within the jurisdiction for a year before.

Power to the vice-warden on the common law side, if the defendant has absconded, and cannot be served, to issue a distringas.

Where judgment, &c., obtained, but person and effects are out of the jurisdiction, the superior courts may issue execution.

Any rule of the court may be enforced by making it a rule of any of the superior courts.

The vice-warden to have no jurisdiction except as provided by this Act, and parties may demur or plead to the jurisdiction; but if they do not, then the jurisdiction to be binding.

Power is given to the vice-warden to make orders, &c., as to practice, fees, &c., but to be first approved of by the judges in the superior courts, and in the mean while the old practice, &c., to continue.

Power given to the vice-chancellor to regulate how evidence shall be taken; but in the mean while old practice to remain.

Power to the vice-warden to try any issue of facts, arising on the equity side, by a jury. Power to the vice-warden to make orders whether his court be adjourned or not. And also to sell shares of any shareholder ordered by the court to make any payment in respect of the management of such mine.

The vice-warden's seal to be the seal of the court; and all attornies, solicitors, and barristers, allowed to practice in the court.

The court to have jurisdiction throughout the county of Cornwall; to be a court of record; be held at Truro; and sit quarterly at least.

The appointment of a registrar, and his removal, precisely in the same way as the vice-warden.

Appointment by the vice-warden of a person to be secretary to the vice-warden, and clerk to the registrar.

Same as to prothonotary or assistant-registrar.

Same as to collector, who is to find such security as the vice-warden thinks fit.

The Bill then provides that the salaries of the vice-warden shall be £1500

Registrar	300
Secretary and clerk	100
Prothonotary or assistant-registrar	300
Collector	30

The revenues of the duchy to be charged with and pay one moiety of these salaries.

The registrar and other officers to account half-yearly for all fees received by them; and one-third thereof to be paid to the duchy, in aid of the moiety of the salaries charged on the duchy revenues.

It then makes an assessment of one farthing in the pound sterling on all metals and metallic minerals (except tin) raised in any mine in Cornwall—the head manager of each mine to make a return of the metals and metallic minerals raised, and pay the assessment, which he is to be allowed in his accounts.

The registrar, out of the monies from this assessment and the remaining two-thirds of the fees, is to pay the other moiety of the salaries.

The registrar to have his accounts of receipts from the assessment, and from the fees and his disbursements, audited by the vice-warden half-yearly.

If monies in his hands are sufficient to meet the next half-year's payment, no assessment is to be payable for such half year.

Penalty on head manager making returns which are false.

As to juries, the Bill provides that the clerk of the peace shall return a copy of his juror book to the registrar, who is to summon the necessary number of persons therein named; and the parties are to strike off those against whom they have any objection, with power to complete the necessary number "de circumstantibus;" and a penalty on jurors not attending.

Power to vice-warden to appoint a person as crier and usher of the court.

The vice-warden and registrar not to practice; and neither they nor the other officers before named to take any fees, except as hereby provided, and which are to be accounted for.

A list of fees to be taken to be hung up.

The county prison at Bodmin to be the prison for the vice-warden's court.

Repeal of the clauses in the convocation acts which are mentioned in the schedule to the Bill.

The expressions in the convocation acts, and the powers thereby given, applied and given to the vice-warden and his court, and the officers thereof.

All existing laws in the Stannaries to be in force, except so far as inconsistent herewith, and power given to the duke still to call together a parliament of tinners, as heretofore.

Interpretation clause.

Commencement of the Act.

The following matters are reserved for consideration during the progress of the Bill:—

1st. Mining regulations.

2nd. As to extending the arrangements under which convocations of tinners were held, so as to obtain a different mode of appointing them.

3rd. As to extending the powers of convocations to other metallic minerals.

4th. As to giving power to registrar to make orders in the absence of the vice-warden.

MOVING POWER.—A letter from Frankfort says, "A discovery of immense importance has been communicated to our Society for the Promotion of the Physical Sciences. The discovery is that of an impulsive force more powerful than that of gunpowder or of steam. Our men of science are in raptures, and are preparing their reports, which will be very shortly published. All that we yet know is, that the moving power is a galvanic machine, the action of which, it is said, will equal that of steam, without the expense, and without the danger."

AMERICAN LITERATURE.—By a tabular statement made in the *American Booksellers' Advertiser*, that during the past year has been published in the United States 441 books, or 547 different volumes, averaging 1000 to each edition, makes a total of 547,000 volumes printed in the United States, for the first time, during one year, exclusive of pamphlets, periodicals, and repeated editions. This is only so far as is actually ascertained, and is, of course, within bounds. 547 editions of 1000 cost, say 400 dollars each, requiring an investment of 218,800 dollars, and new editions would swell the amount to about, say 350,000 dollars, in the publishing business alone in one year. One item is remarkable alone in this table—the great increase of novels, especially original ones, since 1834. Thirty-one new American novels, it seems, were issued for the first time in 1835, and school books in similar abundance. Another interesting fact is, the increase in proportion of original works. In 1835 there were one-third more foreign than original, in 1835 the proportion was more than reversed.

CARN BREA.

(Continued from No. 42.)

The ancient Cornish were not without their apprehensions that their Danish enemies would at no remote period condescend to pay them a similar visit, by way of taking their revenge, and they were assiduous to put their position in the best posture of defence, by raising fortifications near the place of their former landing. The remains of these ancient fortifications may still be seen commanding two valleys, one of which leads towards the Druids' town, and the other towards Carn Brea. These were the only ways by which large bodies of men could penetrate into the country from the creek. A native hunter would no doubt find other avenues; but the bold attitude of the frowning cliffs, and the impenetrability of the surrounding woods, rendered the country impervious at other points to hostile stranger hordes. This ancient fortress stands at some little distance from the shore; but, even at the lowest ebb, an advanced guard might be easily pushed forward to the water's-edge. A little in the rear lay the residence of the chief, the ancient predecessor of John of Gaunt, who, tradition says, on dying without issue, bequeathed Carn Brea to Basset of Umberly, in Devon, in the following poetic language:—"I, John of Gaunt, do give and grant unto thee, Carn Brea, an estate of feo, Basset of Umberly," These fortifications did good service in after times, and the gallantry displayed therein by the ancient Cornish tended much to the preservation of the internal parts of the neighbourhood, and kept many a horde of Danish depredators at a respectful distance from Carn Brea. Other parts of the Cornish coast, however, were less pervious, and some time after the Danish expeditions became so numerous, and withal so powerful, that it was impossible to prevent their landing, and many parts of Cornwall again became a prey to the lawless depredators.

Ethelred, unlike his gallant predecessor, was always *unready* to receive these hostile visitants; instead of meeting them at the head of a gallant and patriotic band, instead of inciting his people to rouse their energies for the preservation of their property and liberty, the infatuated monarch took council of some kindred base and degenerate souls, and levied a tax on his people, in order to raise a sum wherewith to bribe their enemies to depart the kingdom. The frequent repetition of this pernicious policy became the source of almost incredible horrors. It sharpened the sordid and insatiable avarice of the Danes; and if, in accordance with their stipulations, they left the scene of their depredations, it was only to move to one more distant, and to give place to fresh parties of their countrymen, who were allured by the anticipation of similar bribes. Ethelred made another pernicious compromise with these formidable enemies, by espousing the sister of a northern chief. He also retained the system adopted by some of his immediate predecessors, namely, that of employing a considerable number of Danish mercenary forces from such tribes as had been induced to settle in the different parts of his northern territories. These mercenaries were posted in different parts of the kingdom for the purpose of protecting the inhabitants from their assailants. But, in strict consistency with their national character, they openly violated their engagements, by associating with such piratical hordes as from time to time effected a landing, and became the oppressors of those whom it was their sworn duty to have afforded protection. In short, what Danish artifice failed to extort, was obtained by threats and treachery and cruelties, until their artifice and fraud became so odious, and their perfidy and violence so intolerable, that it was resolved at any rate to get rid of such avaricious, perfidious, and cruel enemies. The task was chiefly assigned to the weaker sex, who, in addition to their other calamities, had suffered much from Danish cupidity; and they took an ample revenge. A conspiracy was formed and carried into execution with such astonishing effect, that in a single night the whole Danish race was extirpated. The bonfires on Carn Brea, and a thousand other hills, attested the sanguinary fact, and the sun arose on rivers of Danish blood.

(To be continued.)

SLIGHT SKETCHES FROM CORNISH MINING HISTORY.

About 100 years since, as one Peter Hall was riding over Predannack Common, in the parish of Mullion, his horse kicked up a piece of malleable copper, in consequence of which a mine was opened on the spot, which led to the discovery of a great deal of native copper, together with a small portion of copper ore, both of which was found near the surface. The mine has been wrought several times at subsequent periods, and has yielded valuable returns; contrary, however, to the general custom of the Cornish mines, these have not been the production of any regular lode. The copper ore produced was chiefly of the grey kind, and, like the native copper, instead of being concentrated in a regular lode, was found to consist of multitudinous small veins, or fibres, diverging in different directions through the country. The ore was of a superior quality, and it is almost needless to observe, that the native copper was one of the richest descriptions of Earth's productions. We believe that iron was also discovered in the prosecution of these operations. It is reported that a table has been made out of one of the pieces of malleable copper, which is now in the possession of the Earl of Falmouth, and another lump is said to have weighed upwards of 100 lbs., and to be thickly impregnated with crystallized particles. The country from which these interesting productions were taken was serpentine, and tinctured, as the miners say, "as green as a leek." From the great variety of luminous exhalations which nightly hover about it and dance along its surface, the mine has been denominated the *Ghost*. The chief part of the returns was found above the adit level, and it is said the last working was attended with a trifling loss to the adventurers.

Several years since a mine in the parish of Ludgran is said to have yielded a quantity of curious green stones, which were taken for the *turquois* by naturalists, and which they resembled so closely, that the difference was scarcely perceptible. Some other stones, possessing singular properties, have also been discovered in this mine.

[To be continued.]

RAILROAD TO SHEFFIELD.

A deputation from the promoters of the Sheffield and Humber Railway, to confer with gentlemen here on the feasibility of a line of railway between this place and Sheffield, has been in Hull two or three days. They have had several conferences, of which we believe the result is highly favourable, both as to the practicability and advantage of the project to the trade of both. The line suggested is to a station not far from Howden Dike, from whence a very easy communication can be made across the river to the Hull and Selby road. From a cursory glance at this new scheme, we feel fully satisfied that if put into execution, it must be in a high degree promotive of the true interests of Hull. It will bring Sheffield and Hull into close mercantile connexion, and by affording to the manufacturers of the former a ready transit of their produce to the continent, must contribute materially to facilitate their commercial intercourse. We have great pleasure in stating that this project stands a fair chance of being carried into execution. According to what we hear, the applications for shares are very numerous indeed, and leave not a doubt that the whole will speedily be appropriated. To our own merchants, tradesmen, and shipowners, the motives are powerful for its encouragement. It will increase the business of the town, and most probably be the means of preventing some from leaving it, which without such an accommodation might possibly do so. Since writing the above, we have learnt that the deputation from Sheffield consists of the Master Cutler and other gentlemen, and that in consequence of the conferences already held, a meeting has been called of the bankers, merchants, &c., in Hull, to take, in conjunction with those gentlemen, the subject into further consideration.—*Hull Rockingham.*

Important Antediluvian Discoveries.—Dr. Klippstein, a German *savant*, who has long devoted himself to the study of geology, and who is at present directing the excavations in the neighbourhood of Alzei (a small town in Rhenish Hesse), where numerous fossil bones have been found, has lately made a most valuable discovery for natural history. In digging twenty-eight feet below the soil, near Eppelsheim, about a league distant from Alzei, he found in a state of the most perfect preservation the head of a *dinotherium giganteum*, probably the most colossal of the antediluvian animals, whose existence was first indicated, and nearly specifically determined by Dr. Caup, the learned zoologist. The head measures six feet in length, by three and a half in breadth; and its weight is nearly five quintals. Near the head was found an humeral bone, six feet long, weighing two quintals, appertaining apparently to the same animal. No remains of this kind has ever been found before.—*Gazette Allemande.*

THE SIMPLON.

We soon reached the first of the celebrated galleries, which are also features of the route that, I think, are usually exaggerated. The mere effect of passing through these artificial caverns, amid frowning precipices and foaming torrents, and along a road, that, in reality, is as smooth and safe as a garden walk, is, beyond a doubt, both exciting and strange: but as mere public works, these galleries are neither extraordinary nor unusual. The "Hole of Uri" is precisely the same thing, and much more ancient, though smaller. Were the rock entirely blown away, these passes would create much less wonder and conversation, while the labour and cost would evidently have been materially increased. But you can more easily appreciate the labour, if not the effect, in a picturesque sense, by learning the dimensions. The longest of these galleries is a little more than six hundred feet, the height is about twenty, and the breadth twelve. The rock is a compact granite, with few veins. The single cutting on the Erie Canal, near Lockport, as a mere public work, materially surpasses all the cuttings and blastings on all the Alpine passes put together, although there are now two other roads, but little, if any, inferior to this of the Simplon. Notwithstanding all the mistakes which have arisen from indiscriminating descriptions, poetic feeling, or popular error, no passage of the Alps can possibly be other than grand, and, at certain seasons, dangerous. The magnificent nature among which the Simplon road is compelled to pass, coupled with its extent, form its principal peculiarities. There is, perhaps, no one insulated point on the whole route which, taken by itself, merely as gallery, bridge, or road, is not surpassed, even in its own way, by some similar object in some other part of Switzerland. Thus, no bridge is equal in boldness, thread-like lightness, and giddy altitude, to that of the Reuss, near Ursern; nor do I know that there is any greater cutting than at that point; but there is *so much* of this labour, and skill, and hardihood, compressed into a single route in descending the Simplon, that while one is passing rapidly through such a scene, the mind, without stopping to analyze the parts, is apt to carry away an impression of an entire and undivided whole. You are kept for hours among some of the grandest objects of the sublimest scenery of Europe, if not of the world; and few pause to detect the means that conspire to produce the impressions that all feel.

I cannot pretend to give you a very accurate notion of the distances, for the moments flew swiftly, and my attention was too much attracted to the scenery to take heed of their passage. I should say, however, it was at a point less than two leagues from the village that we passed the portion of the road with which I was most struck, considering it merely as a work of art. At this spot it became necessary to descend from one level of the gorge to another that lay at some distance beneath. This object the engineers had been obliged to achieve within a very short space, and over a broken and steep surface of ragged rocks. It was done by short zig-zags, so admirably calculated both to the inclination and the turns, as to enable old Caspar to wheel his four greys, on a gentle trot, through the whole descent, with as much accuracy as he or any one else could have wheeled a squadron of dragoons. The beauty, precision, strength, ingenuity, and judgment with which the road had been constructed among these difficulties, drew exclamations of delight from us all.—*Cooper's Excursions in Switzerland.*

CURIOUS ORGANIC REMAINS FOUND IN THE COAL FORMATION.

Communicated by Mr. John Craig, Woodside, Chapelhall Iron-works.

I have left the two petrified crustaceous reptiles mentioned in the introductory note to my account of the fossil wing of a fly found in a freestone rock, twenty-four feet from the surface at Fairybank, at the Andersonian Museum, where, with the wing, it may be seen by the curious; as also a singular specimen of limestone, which seems to set both the laws of crystallization and organic construction at defiance—the conchoidal fracture of the stone containing innumerable impressions like those of the vertebræ of fishes, while the other side presents tapering convex ridges, as if the tails of fishes, from the size of a minnow to that of a grown herring, had been cemented together. The limestone containing these impressions lies about twenty-four fathoms below the Glasgow firth or splint coal. I have seen specimens from a place two miles east of New Monkland church, and from Holytown; that in the Museum is from the estate of Coltness.

The reptiles are about a foot in length, and an inch in diameter. A crustaceous covering, like that of the armadilla, envelopes the lower extremity of the fossil, and terminates at a point at the back of the head—the covering consists of small ridges meeting in the middle of the back, and forming right angles. The head resembles that of the eel—the intestine cavity runs to within a little of the tail, and the seat of the spine is filled with iron pyrites. The animal is converted into ironstone, but a miner in this neighbourhood tells me he has seen the same sort of creature converted into freestone. There is a small piece of a petrifaction of the sort in the Museum, characterised by the donor as a vegetable remain. Had the gentleman seen the entire specimen, he had not committed a mistake of the kind.

Mr. Smith, of Jordanhill, informs me that a fossil fly, resembling the dragon fly, (culex,) was found some time since in a coal-pit near Dalmarnock, by the Rev. Mr. Paterson of Glasgow; and that he (Mr. Smith) showed it to the Royal Society of Edinburgh, to the naturalists of the British Museum, to Mr. Lyall, and other distinguished geologists in London, who were much interested in it, but divided in opinion as to its being contemporaneous with the fossil (calamites) to which it adhered. One swallow, it was observed, did not constitute a summer; and a solitary instance was not, therefore, to be regarded as sufficient evidence of insect existence in an epoch so remote as that of the coal formation. The Fairybank wing may perhaps help to settle the dispute; for there can exist no doubt as to its being contemporaneous with the rock near the bottom of which it was found. The rock lies about sixty fathoms below the Glasgow splint coal, or about 150 fathoms below the surface, in the centre of this parish. Mr. R——, secretary of the Royal Society, Edinburgh, has taken the Dalmarnock fossil fly with him to Paris, to show it to the savans of that capital.

Shells and tropical plants, particularly those of the cactus, palm, equiseta, and fern tribes, occur in great abundance in the strata in this neighbourhood.

A Venerable Miner.—A man of the name of William Holmes formerly lived in the parish of Darley, a distance of five miles from the ore mines at Ashover, and six from the mines at Cromford. He worked at the former place twenty-five years, going seven times a week a descent of 300 yards and a mile underground; and at the latter place he worked fourteen years, going six times a week 200 yards' descent, and a mile underground. Perhaps the following statement may be nearly correct:—

	Miles.
Five miles to Ashover, and five returning, making ten miles each day (seven times a week) for twenty-five years	91,000
One mile underground to work, and one back, making two miles per day, for the same period	18,200
Descending and ascending, together 600 yards per day, for the same period	3,102
Six miles to Cromford, and six returning, making twelve miles a day (six times a week) for fourteen years	52,416
Underground two miles a day, for fourteen years	8,736
Descending 200 yards, and ascending the same number each day, for the same period	992
Total number of miles in thirty-nine years	174,446

The above miner performed nearly half of his journeys in the night; the road he had to traverse was principally coarse and rugged, and he had to beat and blast the hard rocks in the bowels of the earth for six hours together each time. He worked afterwards at Crich mines, and also engaged himself at the Darley mines. Holmes, who is in his seventieth year, is now living at Kelstage, in the parish of Ashover; and, strange to say, has never experienced a day's illness.—*North Derbyshire Chronicle.*

Guns of the Royal George.—Some large brass and cast-iron guns, which went down with the Royal George in 1782, are now lying in the Tower. The brass ones are little affected by their long immersion in the sea, but those of cast-iron are changed throughout their whole substance. They resemble plumbago or pencil-lead, and, like it, may be easily cut with a knife. Cast-iron pipes attached to a pumping apparatus, in a mine 140 fathoms deep, in the north of England, have been so softened in five years, as scarcely to hold together on removal.

An Omnibus and Gas in Greece.—An omnibus, and a complete apparatus for the manufacture of gas, are now shipping for Athens.

CARBONIC ACID GAS.

It is the carbonic acid which is the cause of mischief in places th badly ventilated, perhaps more than the effect produced by the c ponding diminution of the quantity of oxygen contained in the air. bonic acid is one of the rankest and deadliest of poisons. It is this has so often destroyed life in brewers' vats; it is this which rende vapours from burning charcoal so noxious, and so often fatal. A stance of death from the former of these occurred, within our own ledge, only a few months ago. A brewer's vat had been emptied; came necessary to clean it out before receiving fresh liquor into it. men feared that it was full of this, which they call *foul air*, and hes about descending into it. An overseer, or foreman, who was by, rid what he, poor fellow! looked upon as their fancies, mounted the on the outside, and jumped in. The vat was full of this noxious g never spoke more. When he was dragged out he was a corpse. this gas is very heavy—much heavier than common air—and consequ it always settles to the lower part of a room or of a vessel containi and it takes a considerable time, without it has some means of egress the lower part of the room or vessel, before it wholly escapes. Ha fact been known and thought of in the case we have just related, an bung or tap had been removed from the lower part of the vat some tw four hours before, the carbonic acid would have flowed out at the hole like so much water, and the poor fellow's life would have been Dr. Hodgkin relates a case, which occurred in 1807, of a man thirty- years old, and a lad of fifteen, who went to bed, as usual, on the nig the 23rd of November, but had allowed a chafingdish of charcoal to re burning at the foot of the bed, whilst the door of the chamber was cl Between six and seven o'clock the following morning the lad was f dead on the floor. He had probably tumbled out at the foot of the when lapsing into insensibility, and had thus been inhaling the air in the carbonic acid would, from its weight, be most abundant. The who was still in bed, and consequently was more elevated, although state of stupor, still exhibited some signs of life, and, under the judi care of Dr. Babington, was restored. Now, if there be an excess of gas in the air, which there must be if a number of people are collecte an imperfectly ventilated apartment, although the quantity may not great as to destroy life at once, or to suspend its functions, yet it insidiously manifest its poisonous effects in injuring the health and un mining the constitution. When the air of a room smells close, and bre ing in it is attended with some feeling of oppression, there is a st probability of there being an excess of this poisonous gas in the air o apartment. It is constantly evolved from the lungs—expired air cont it in large quantities; the fire, a burning candle, or lamp, or gas, all po out in immense quantities; and if the air of the apartment is not often newed, if egress is not permitted to this pestiferous agent in proportio the quantity of which it is generated, the consequences cannot but inv an injury to the health of those occupying such apartment.—*Magazine Health.*

Electrical Experiments.—A salad consisting of mustard and c may be produced in a few minutes by an electrical experiment. process is to immerse the seed for a few days previously in diluted o muriatic acid, then sow it in a very light soil, letting it be covered wit metallic cover, and next bring it in contact with the electrical machi By the same agents employed in this process eggs, which require fr nineteen to twenty-one days' application of animal heat to hatch the may be hatched in a few hours. Rain water, apparently free from noxious animalcula, in an hour can be rendered full of living inse Water, in a short period, decomposed of its two component parts, oxy and hydrogen, and by the same power restored to its former state; platina, the most difficult of all metals to melt, in a moment can be fu and calcined by the discharge of an electric battery. An iron bar, by discharge of a sufficient accumulation of the electric fluid, will beco magnetic to such a degree as to lift more than its own weight; and i pound of red lead and a pound of sulphur be mixed together into a m which no human ingenuity can separate, a stream of the electric fluid w do it at once.

Explosion of Gunpowder and Loss of Life.—A very remarka and melancholy occurrence took place at the gunpowder manufacto belonging to Mr. Williamson, at Fermelee, near Whaley, by which t brothers (John and James Heaps), in the employ of the above gentlem lost their lives. The unfortunate men were at work in a place called t Drying Room, when, by some unaccountable cause, an explosion to place. Part of the roof of the building was blown a distance of near half a mile, and the body of one of the men was found about two hundre yards from the premises, part of a leg and one foot blown off, and t other, owing to the great height which the body was forced in the a sunk a few inches in the ground. The other brother was engaged, at t time the explosion occurred, in oiling the geering of the works, a escaped the dreadful mutilation which the body of his brother received but he was so severely scorched that he died the following morning. H was quite sensible to the last moment, and could not assign any cause f the explosion. He was a single man; but his brother has left a wife a six small children to bemoan their loss. It is said that there was upward of a ton of gunpowder in the room; and so great was the shock, th many of the cottage windows, a considerable distance from the premise were completely shattered.

Fatal Accident in a Coal-Pit.—Four Men Burnt to Death.— An explosion of fire-damp took place in a coal-pit, in the parish of Alfr ton, belonging to Mr. Brittain, by which four men were deprived of lif The following are the particulars of this melancholy event:—About fou o'clock in the morning, two of the unfortunate men, named Isa Tupman and Cook, descended the shaft of the pit, for the purpose pursuing their employment as colliers, and on reaching the bottom, Coo remarked that it was not in a fit state, owing to its not having bee worked for a week, to which his companion expressed a different opinion and, taking a candle in his hand, proceeded into one of the working Cook followed in a few minutes after, leaving his candle behind; and o overtaking Tupman, the latter observed, "there was a little wind;" whe turning round, Cook saw the peculiar blaze indicative of the presence foul air; and, in order to avoid the impending danger, threw himself int a "thurl waste," while the other hastened towards the shaft. A loud r port immediately followed, and the ignited gas continued blazing for abou ten minutes. In about half an hour afterwards, Cook ventured to leav his place of security, and went to the shaft of the pit, where he found Tupman crawling upon his hands and knees, and dreadfully burnt; but what added more to his horror, was finding three other fellow workmen burnt to death, in the chains, by which they had descended, evidently at the time the explosion took place. The bodies of the unfortunate men were got out as soon as possible; and Tupman, from the severe injuries he had received, survived the accident only twenty-four hours. The names of the sufferers are George England, Joseph Burgoine, Samuel Knighton, and Isaac Tupman. They were remarkably fine young men: the three last-named have left widows and children to lament their untimely fate. The other sufferer, George England, was the sole support of his mother. An inquest was held on the bodies on Tuesday, before Mr. J. Hutchinson, coroner, at the Miners' Arms, Swanwick, when the above painful facts were detailed, and the jury returned a verdict of "accidental death."—*Derbyshire Courier.*

The Advantages of Reciprocity.—Every country has some article which it can bring into the general commerce of the world, upon better terms than any other country; and the grand point to be aimed at for our common and mutual advantage (for we are all brothers, whatever latitude or longitude we happen to be in), is that each country should bring forward that which it can furnish best, cheapest, and in greatest quantity. Our "diamond mines" are our real treasure, worth ten thousand times more than all that the starved and sterile tracts where *toy* diamonds are usually found, can produce; and, next to the metals, glass is the substance which the glorious light of those diamonds should enable us to melt and turn into gold. Pottery follows side by side with glass; and, thanks to the science of those who invented an l improved the steam-engine, we can lend, or sell the loan of the strength and skill of ten or twenty millions of men, to any people who may require it for peaceful purposes. We have a beautiful instance of this in our cotton manufacture. Sixty years ago a British female paid two or three guineas for a tawdry dress of India manufacture; while the same engines which produce this effect, have lowered the clothing of the Indian people more than one half. This is a remarkable instance of reciprocal benefit in a single case; what then would it not be, if the bond of national reciprocity were twined like a girdle round the globe?—*Magazine of Domestic Economy.*